

The Ghosts of Departed Qualities

The practice of developing an HCI module

HCI Disciplinary Commons Portfolio

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*'They are neither finite quantities, or quantities infinitely small, nor yet nothing.
May we not call them the ghosts of departed quantities?'*
Bishop Berkeley *The Analyst*, 1734. On Newton's infinitesimals.

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Overview

The aim of this portfolio is to capture the practice of teaching an HCI module. This attempt to capture practice has coincided with a change in job and this change has shaped the portfolio more than I had anticipated. Thus, the portfolio, rather than capturing the specific activities that lead to good teaching outcomes, has ended up being more about the process of developing a course. The course addressed in the portfolio is a single 10 credit module entitled Human Computer Interaction (HCI) and runs as part of an MSc in Information Technology.

There are seven major sections as listed in the contents above. These address the different aspects that influence the teaching of a course. The sections are basically stand alone but only make a complete picture of the practice of developing the HCI module when considered together. Each section is accompanied by an artefact. The artefact is intended to reflect key ideas in each section rather than provide evidence to demonstrate what is said in the section.

A big problem with writing my portfolio has been: who is the reader? To some extent, I have written this portfolio for myself. I wanted to get a lot of things off my chest. The process of developing this module, like any other module, is challenging, confusing and time consuming. Attending the Commons and writing the portfolio have helped me to articulate the challenges and so think better about what the course is and what it might be. The resulting module almost certainly can be improved and yet there is little I would have done differently. What this portfolio reveals to me, through the Disciplinary Commons process, is that developing a module is a design process. As teachers, we bring our experiences, knowledge and values and express these through our teaching much as a designer expresses the same things through their designs. The portfolio helps to make explicit the knowledge, experiences and values that I am drawing on and assess their validity (internal, external and ecological) for this particular module.

What then is the benefit of the portfolio to you? What the portfolio does is make explicit what is only implicit in my teaching. If you were to attend my course, read my materials or do the practicals, you would experience the design outcomes but you would not necessarily understand or even see the design constraints and motivations. These qualities are merely presents as ghosts of what went into devising the course. Thus, the benefit to you of reading this portfolio is that it allows you to see those qualities that are usually absent from a course even if crucial in its inception. If you are a teacher, you will have your own implicit approaches to teaching and I would hope you might find it useful to compare them with mine. From this you may be able to see which aspects of my teaching that are suitable for you. If not, then hopefully you can see that whilst I obviously do things in a completely stupid way, it is not a way that is stupid if you are me.

The general benefit then that I hope you can get from this portfolio is that it does capture what I do when I teach and in particular when I devise a new module. If you are interested in what it is like to be a lecturer teaching, then I would hope you could get a lot from this portfolio. If you are interested in how to teach HCI, then this portfolio may not be much help at all.

Context



Human Computer Interaction (HCI)

[Workload](#) - [Private Study](#) - [Assessment](#) - [Description](#) - [Learning Outcomes](#) - [Content](#) - [Teaching Materials](#) - [Recommended Books](#)

Module Code	0620355
Lecturers	chandra lillian
Taken by	MScIT
Part	A
Lecturers' Course Notes	http://www-course.cs.york.ac.uk/hci/
Number of Credits	10
Closed Assessment:	1.5 hours
Open assessment:	None

Workload

Lectures: 18 x 1 hr lectures.
Problem classes: 9 hrs.

Artefact for Context: [Web page](#) for the module description of HCI

In describing the context of teaching my HCI module, it could be expected that I would tell you about the department I work in, the course I teach on and the other work I do aside from teaching this module. However, the context for the teaching addressed in this portfolio was more of a lack of context than anything else. This is because I moved job at the beginning of October from UCL to the University of York. This does not mean there is no context but there is a lot missing.

Of course a move does not necessarily mean a huge difference. After all, a university is a university. To some extent this is true, there are elements of UCL and York that are very similar. Both are well-established, research-focused institutions with a high standard of students. Both are campus universities (though in UCL's case that may be stretching the definition a little). But for me and for my teaching the change was pretty much everything.

At UCL I was in a psychology department teaching a dedicated masters programme in HCI and some psychology teaching alongside. At York, I am in a computer science department and teaching one HCI module as part of a MSc in Information Technology. The students at UCL were recruited from a psychology, computer science or industrial background and almost all intended to go into usability consultancy in some form or other. At York, I had no idea who the students were or what they wanted to do.

I also did not really know what the MSc in IT was intended to be about. Nor did I know how the department managed students, the support structures that were set up for staff, what teaching rooms were like or even what teaching rooms I would have. Thus, teaching at York was a voyage into the complete unknown. The only mainstay really was myself — I was hired to do a job like I was already doing so I had to assume that something like that would still be acceptable at York.

The only context, then, that I had for my teaching was the module description available online and that is the artefact associated with this portfolio section. I also had slides for the course but other people's slides are like other people's toothbrushes: in principle there is nothing wrong with them but I'd much rather use my own.

The module description makes it clear that this is a broad brush HCI course. In other subjects like discrete mathematics or cognition, there would be key elements that would be necessary in any such module and little room for much else. In HCI though there is such a huge range of possibilities, even for quite a well written module description such as this, there is enough slack to well and truly hang myself. What I really needed at the time was more context. What would work within the IT programme? What would the students want out of the module? How applied should it be?

One other piece of information came forward: it had to cover the basics of UCD. This at least pinned some of the core ideas down and was enough to start. But even then, what does covering UCD mean?

I realised that to provide a coherent module to students, I would need to make the module coherent to myself first. So for this reason, I started with a philosophy for the module and hoped that clarity would emerge from that. This is discussed in the Philosophy section.

A bit about me

It may be useful that you know a bit about my background as this was the only piece of context I was sure about.

I did my first degree and doctorate at Oxford in mathematics in a very pure area called General Topology. I found mathematics research to be very hard so I left university and became an analyst programmer at a small company near Cambridge called The Technology Partnership. However, after two years, I missed teaching so I returned to academia as a lecturer in Business Information Systems at Middlesex University. It was a great job as it taught me a lot about wise use of time, of pragmatism when it comes to admin and most importantly how to teach students from a huge diversity of backgrounds.

I moved in 2001 to University College London with Prof. Harold Thimbleby when he set up UCLIC, the UCL Interaction Centre. UCLIC took over from the Ergonomics Unit at UCL in teaching a specialist MSc in Human-Computer Interaction with Ergonomics. Because of the strange set up of UCLIC, I was actually formally in the Psychology Department which meant that I also had to do undergraduate tutorials in psychology and teach statistics to MSc and PhD students in psychology.

I stayed at UCL for six years after which I moved to the department of Computer Science at the University of York. I am a senior lecturer in HCI and have become the programme leader for a new MSc in Human-centred Interactive Technologies. The HCI module in this portfolio is an existing module taught to MSc in IT students and will be taught on the new MSc as well.

UCL is an excellent research environment and I was fortunate to have many bright MSc students and several excellent PhD students. With them, I have been able to do research into immersion in computer games, mathematical knowledge management and modelling user interactions. I have also become very interested, because of the problems faced by research students in HCI, on what research methods can provide sound contributions to HCI knowledge. This has led to Anna Cox and I editing the book *Research Methods in HCI* which will come out in September, 2008.

Philosophy

Towards a Framework for Integrating Agile Development and User-Centred Design

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Abstract. Due to a number of similarities between user-centred design (UCD) and agile development, coupled with an appreciation that developers are rarely usability experts, it seems attractive to integrate these two approaches. However, although agile methods share some of the same aims as UCD, there are also distinct differences. These differences have made the use of these methods on development projects problematic. This paper reports a field study designed to investigate the use of agile methods alongside UCD in one particular organization. The aim of the study was to develop a framework for use by project teams wishing to integrate UCD practices with agile development. The study, its findings and five principles for integrating UCD and agile development arising from this work are discussed.

1 Introduction

The importance of knowing who the users are, understanding their priorities and goals, and actively involving them in uncovering requirements (e.g. [10]) is well understood in software engineering. However the role they should play, how they should be involved, and how much they should be involved has been a matter of dispute (e.g. [6, 9]). User involvement is also a central concern of HCI, and the importance of integrating software engineering and HCI methods has been recognised for many years (IFIP WG 2.7/13.4). The Agile Manifesto emphasises the importance of involving the customer in a development project, but this practice is proving to be problematic (e.g. [12]), and it is rare for a real end-user to take the role of customer.

“User Centred Design” (UCD) is an approach which aims to involve the users in a meaningful and appropriate way throughout a system’s development (e.g. [5], [15]). Gould et al [5] first proposed three principles of UCD in the mid-1980s, and in the 20 years since then, various techniques for involving users successfully have been developed. Integrating UCD and agile development therefore has the potential to help agile developers with the difficult practice of involving customers, and the wider concern of how to integrate HCI concerns with software engineering.

P. Abrahamsson, M. Marchesi, and G. Succi (Eds.): XP 2006, LNCS 4044, pp. 143 – 153, 2006.
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Artefact for Philosophy: *Front page of ‘Towards a framework for integrating agile development and user-centred design’*

Without a clear context to work within, the fallback position was to consider what would be important for the students to take away from the course. The basic idea would be to cover user-centred design (UCD) but what to cover and how to cover it was largely open.

The problem with HCI and other design disciplines is identifying that which makes it a discipline. Particularly as the module was part of an MSc, where is the science in HCI? To address this, I draw on the philosophy of Karl Popper, in that that the route to objective knowledge is through being able to make statements that are independent of the person who makes the statement. For example, physics makes statements about how energy and matter behaves. This is not because those statements are somehow inherent to the universe it is just that there is a declared set of situations in which people perceive such statements to hold and therefore allow other people to test the veracity of such statements. Or in Popper's terms, to attempt to falsify the statements.

The problem with HCI is that it is a design discipline not a science. So making statements that have some universal, non-contingent, falsifiable nature is challenging. The very act of design alters the milieu of design thus altering statements made about the design. The simplest such example would be to declare a design novel. Even if it were, that state of affairs would not remain so for long because of the impact of the novel design on subsequent designs.

It would seem then that HCI is not as good a subject as physics in that there can be no secure knowledge. Indeed, it certainly does not seem to be a science. This is not the case. Both subjects are constructed by people for people. It is simply that the foundation for enduring knowledge in HCI shifts with technology and the very act of communicating such knowledge.

In some sense then, this is the key idea to convey to the students. Designs are contingent. The domain of items of discourse in HCI is expanding as designs are made. The role of the HCI worker is not to claim permanence but to claim that for here and now, this design is a good one.

In relation to UCD, though, what are useful, falsifiable statements that can be made about HCI? UCD cannot guarantee improved designs, nor can it even be said when UCD would work well and when it wouldn't. In that sense, UCD is something of an act of faith. The fundamental tenet of the faith is that lack of consideration of users is likely to cause problems. You may get lucky. Or you may be naturally good at avoiding those difficulties but you are relying on good fortune.

Statements to support this are that software engineers have no idea what UCD is about. That's not true. Some do. Or that software engineering processes are inadequate to do UCD. This is in part true but it becomes clear that all software engineering processes such as requirement gathering, system design and so on are compatible with UCD just that UCD is not embodied in those processes. In addition, it is probably unwise to set UCD at odds with software engineering as many people in the department are concerned with software engineering.

Overall then, it makes sense to convey that UCD is an attitude. There are processes that better embody this attitude and there are processes that do not but so long as the processes attempt to take a UCD attitude, we believe the results will be better for the user. This claim is supportable and falsifiable: methods can be examined for their concern for the user but the outcome is an act of faith, certainly not a demonstrable given.

This stance is captured in the accompanying artefact, an article on the use of UCD within Agile software development. Reading between the lines of this article, it becomes clear that whilst Agile is ostensibly very compatible with UCD (motivating the paper's

authors to undertake this work) actually it does not ensure a good fit with UCD. The failure seems at heart to be related to the developers' attitude to UCD even though from a process only perspective, there is no conflict. I had the good fortune to speak to Helen Sharp about this and whether it would be a fair interpretation of her work and she felt that it was. Which was comforting.

Of course, philosophy can sometimes be only so much hot air. In this case though it was quite liberating. If UCD is an attitude rather than a specific all-encompassing process, then it was only important to teach how that attitude can be embodied in processes appropriate to system development. These are the classic, generally agreed steps of requirements, design, implementation and evaluation. Exhaustiveness was not necessary nor even a fully articulated life-cycle. It would be sufficient to illustrate the UCD attitude in these aspects of design and that would be what students, no matter what their final career, could perhaps hold and adopt.

This was a good way forward for the design of the module. It went from trying to cover everything that fits under the banner of UCD, to a fundamental principle of UCD that can be illustrated across the usual software lifecycle. Moreover, it is a learning outcome that could be useful to students in IT regardless of their final intended career.

Content



Artefact for Content: *Abbey of Zwiefalten, Germany*

The content of the course is founded on the philosophy of user-centred design (UCD) as an underlying attitude to a software/interface development process. A key idea of the course is therefore to fit UCD into an acceptable software development lifecycle. There are many possible models but there is a general agreement that software development should be an iterative process that includes the stages of:

- Developing requirements
- Designing the system
- Prototyping
- Evaluating

In addition, I feel from previous teaching that something that is not captured with these stages is having an overall vision of the development process: what is it that is being produced? Or put another way, how will you know when you have done a good and suitable design? To this end I felt the content should also include an element of conceptual design that would explicitly initiate the design process.

Course themes

Arising from the philosophy, it was important to stress that UCD is not antithetical to other software engineering practices nor that UCD methods should be viewed as separate activities. Rather, UCD is an attitude and there are methods that foster this attitude better than others. For example, using personas and scenarios is more user-centred than standard use cases and, arguably, doing participatory design is even more so. Thus, regardless of which particular methods I chose to teach within the development lifecycle, I aimed to stress that the method captured a user-centred attitude by either implicitly or explicitly involving the user.

A second theme arose from the distinction between science and design disciplines. Design is a contingent process and the act of designing and communicating designs alters the discipline. HCI therefore suffers from this moving target of design in that as a result of better understanding what people do and how they do it, what a design is intended to do changes. Also, considering the designed artefact in a situation, it is expected that people will change as a result of using the artefact. Thus another theme that I have tried to make explicit is the value of narratives in capturing knowledge.

Scenarios are an obvious way in which narrative is used to express a design. However, I also discuss that in requirements gathering and interviewing people, people tell us their stories. These stories are important because not only do they tell us what people do but they tell us about how they feel and what is important. These stories can be carried through the design process to see if we are making the new stories a reality.

Also, stories are the basis of scientific knowledge in that scientific theories not only withstand experimental testing but also they have explanatory power that makes the theory robust to apparent experimental refutations. In this sense, design is not woolly and unscientific it just uses stories in a different way. Science uses stories to explain phenomena, design uses stories to make phenomena.

These two themes are reflected in the artefact that I have chosen to illustrate content. It is a baroque church in Zwiefalten in southern Germany. Baroque architecture began as part of the Counter-Reformation to encourage greater participation of the people in the faith

of the Catholic Church, which was strongly beleaguered by the Protestant Reformation. The principle behind baroque was to provide an emotional focus within church (whilst still showing off wealth and grandeur). This was done through a great detailing within churches so that they were filled with religious symbols and elements of nature which an illiterate congregation could read and interpret. This particular church is filled with images of saints, depictions of scenes from the Bible or mystical “scenes” such as the crowning of Mary as Queen of Heaven. Additionally, it is flooded with light and, though not visible in this picture, there are lizards crawling up pillars, birds perched on pediments and much of the ornamental plaster work is leaves, flowers and trees. Thus nature’s glory, inasmuch as it reflects God’s glory, is within the church and, by implication, within the Church.

Baroque church architecture, I feel, captures the two themes I am thinking about. The architecture is subordinate to an attitude: the glory of God and its manifestation in the Church and Nature. Everything in the architecture is aimed to impress but with a view to drawing a person closer to God. Additionally, the detailing is the basis for narratives: stories about saints, about nature, about mystical concepts. Baroque churches for me, embody an attitude and narratives that support that attitude.

Syllabus

The course is basically divided up into motivating the need for a UCD attitude and then showing how the attitude can be implemented through the five aspects of a development lifecycle. The syllabus topics came out as:

1. Introducing HCI
2. UCD
3. People: cognitive and physical capabilities and limitations
4. Context: theories of situated action, cognition and culture
5. Conceptual design
6. Gathering requirements: interviews, observations and questionnaires
7. Personas
8. Scenarios
9. Creativity and sketching
10. Visual design
11. Prototyping: types and non-interactive prototypes
12. Testable prototyping
13. Prototyping methodologies and languages
14. Design patterns
15. Evaluation and heuristic evaluation
16. Walkthrough evaluations

17. Usability testing

I would say that some motivation for a UCD attitude must include discussion of people and context but otherwise, none of these topics are necessary in that there are other methods in all five stages that could be used to illustrate a UCD approach within the lifecycle. Having said that, many of the topics are commonly included in HCI textbooks and are widely used in commercial usability work (I understand) so these topics do represent a good view on what people might encounter or use in a commercial setting.

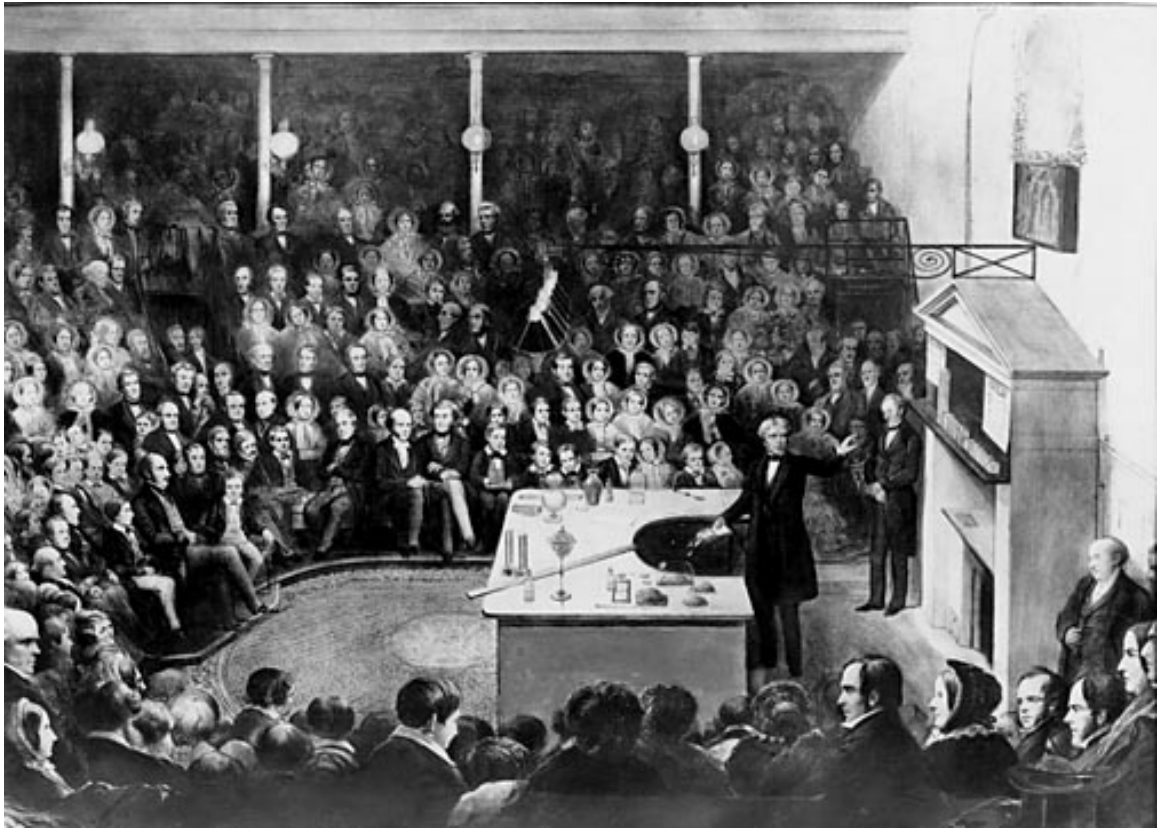
About half of the topics, I had taught before and it made sense to continue to teach these topics. I had built up some experience of teaching them and I had used a few of them in my own research so had personal experience that could be discussed in lectures.

Related to my research, there are several topics I would have liked to include such as videogames, culture, information visualisation and statistics. However, these are quite specialised and somewhat unrelated to a standard development lifecycle. Whilst I can get personally excited about these topics, it is hard to communicate the value of them within the framework that I had devised.

There are also topics I definitely ruled out from this list such as computer-supported collaborative work, organisational theories or modelling. Whilst these are all good areas to study and work on, I know very little about the first two and all three would require a significant learning curve that would detract from covering the basic lifecycle in-depth.

It may seem egocentric to aim to only cover topics that I know about and have researched in but I am strongly motivated by my former colleague Prof. John Jenkins who said that the difference between higher education and further education is that in higher education we are changing the subject that we teach. I therefore aim to teach things that I am trying to change.

Instructional Design



Artefact for Instructional Design: *Faraday lecturing at the Royal Institution*

As with any course, there are a range of formats in which to deliver content. I think that these are covered by:

- Lectures and lecture exercises
- Practicals
- Books, articles and reading
- Website

This section will go through each of these and try to give an impression of how I use these formats and why I use them this way. I haven't put in a section on why I chose these formats because basically they were chosen for me for this run of the course.

Lectures

This course has two, one-hour long lectures a week for nine teaching weeks. By lecture, this simply means a session that is held in a room with a digital projector and networked computer. Within lectures, I basically talk around slides and then set exercises for the students to do during the lecture.

In talking, I try to convey key ideas or concepts and say what makes them key. As part of this, I am very keen on telling stories either from personal experience or from the research literature (or even current affairs) that motivate or illustrate the ideas. This year, I tried a particular technique of illustrating ideas with a running example of a mobile service to help people get around the campus without getting lost (a problem both I and my students experienced in the first couple of weeks of term). So for example, I could tell stories about my getting lost or how that makes me feel. This would then motivate what the design is for and what people might want from it.

I use slides to support my talking. These slides are as simple as possible. They are intended to be read almost instantaneously, to cue me as to what I am talking about and to cue the students if they lose track or I digress too far. I use exercises in most lectures. These are done in groups (usually) and are followed by a period in which students feedback their thoughts and answers as a whole class.

For me, lectures are the lynchpin of my teaching. This is a deeply unfashionable view in this day of learning rather than teaching and the requirement for self-directed and life-long learning rather than lectures and classes. However, the difference between being at university and either reading books or watching a television programme is that I am there, live in front of the student. If all I did was tell them to go out and explore the world for themselves, then I wouldn't need to be there at all and so what's the point? Instead, I think the most important person in the room is me and that means I have the responsibility to be on top of my subject, to be responsive to student queries or even their needs, to direct their learning and, most importantly, to provide a structure and framework for the subject that they could not get without me. Anything less and I might as well just tell them to read Preece and look at some websites.

One commonly cited reason for the failure of lectures is that people cannot pay attention for longer than 20 minutes. That is clearly tosh. Many films, television programmes, books, videogames require continuous dedicated attention for far longer than that. Indeed, some TV programmes consist of little more than "talking heads" with illustrations to make

points. Such programmes include the Horizon science programmes, most famously Feynman's programme on physics, and a recent series of programmes on sacred music. What makes these formats useful and which applies equally to lectures is that the information is good, the audience is selective and the illustrations are meaningful. We don't need much more than that! Humans love to hear stories. Get the stories right and they'll learn them on a single presentation. That's an efficient and motivating way to learn.

My inspiration for this is the Royal Institution Christmas Lectures. Faraday founded these lectures and he recommended that people do not lecture for more than an hour because of fatigue. Apparently he was a hugely engaging lecturer and these lectures continue today. As a child, I loved them for the information they conveyed and the illustrations of the material that were presented. My artefact shows Faraday lecturing at the very same lecture theatre that is used for the current Christmas Lectures.

For this reason, my slides are so simple. I get complaints from students that my slides don't contain much. But without me, my slides are useless. The further reading is what is needed if students miss the lecture, not the slides. I try to tell students this but I still get complaints.

It would seem then that my use of exercises contradicts my point about lectures as this breaks up the session and requires the students to interact. Actually, this is more about bringing the students into dialogue with me. By answering my questions from the safe environment of a group activity within the main group of people, students generally will talk to me. Once the dialogue is started, it can carry on both within a lecture, unprompted, and outside of lectures. At least, that has been my experience so far.

That exercises also aid learning is good and why I started using exercises but not why I continue to use them.

Practicals

There is one, one-hour long practical session a week for the nine teaching weeks. However, the inherited slot I was given was not for a computer lab but just an ordinary class room. Thus, it was not possible to do computer-based activities in the practical. As the practical was not assessed, there being no opportunity for coursework, I was free to design the practical sessions as I wanted.

Additionally, I was given two demonstrators for my practicals (though only told about one of them). I did not therefore expect to attend the practicals and it was only much later in the term that I was told that I should have been at all sessions. My PhD student from UCL, Eduardo was my known demonstrator. He is an experienced lecturer in Mexico and so I decided that we should design the practicals together.

With such a free practical structure, it seemed sensible to run the practicals as a design project where students would have the opportunity to do a group design as a way to apply knowledge learned in the lectures. However, I tried to be clear that the practicals would complement lectures but they would be an opportunity for practices to be learned whilst drawing on knowledge developed in the lectures.

Eduardo devised the idea of YorkBook, a social networking site for York students. We then developed a basic lifecycle to take the students through the design process ending with producing and presenting a prototype. Students would be introduced to the next step in the process, set homework that would be the design activities such as interviewing potential users or developing scenarios and the results of the homework would be discussed and feed into the next step.

Whilst this seemed like a sensible model, actually it failed quite badly. Students hardly engaged with the design process at all and ended up complaining that they did not know what to do and I even heard that because it was not assessed, it did not matter. Whether this last remark was the result of disillusionment or the cause of it is hard to say.

I think there may be two causes of the failure of the practicals. First, I did not make it clear enough that these would not match the lectures and that eventually, but not immediately, the practicals would support the knowledge gained in the lectures by offering an opportunity to apply the knowledge. Secondly, I think I grafted on an approach based on my previous experience at UCL. There, I taught only on an MSc in HCI. Students were highly motivated to undertake design activities and to engage with the UCD process. This was probably because many of them came on the course wanting to learn about UCD. Here at York though, the students are IT students and HCI is not their core interest. The result is that they needed more motivation to engage with design activities and more guidance in how to do them.

In the end though, I think that if the students had faith and courage in the process presented to them they would have been perfectly able to do it and do it well. Their failure to engage perhaps shows something about attitudes to study that are focused on outcomes rather than education.

Books, articles and reading

I had not intended to use one main book because though I loved the first edition of Preece, Rogers and Sharp, *Interaction Design*, I thought the second to be bloated. However, as I used it in support of my course, I realised that it was substantially better than the earlier version even in the selected chapters that I used and I regretted not recommending it more strongly to my students.

At the end of each lecture, I suggest further starting off points for my students to read more about a topic. However, I also guide them that I do not expect them to become experts in every topic. They should choose those that they consider important or interesting to themselves and pursue the reading in those areas.

My experience unfortunately is that students generally do not spend time reading, even in support of their practical work unless explicitly told and evaluated on it. Good, interested students do of course do the reading but at the MSc level, I am uncompromising about the importance of reading. You cannot be a master of a subject unless you have read widely on it or experienced it substantially. As experience is unlikely to come from one module in an MSc, reading is the only answer. Few students realise this until the exam is imminent and the reading is piled high.

The practical activities should have led students into some of the reading but because they were not really doing the practicals, they were not motivated to do the reading either.

Website

Websites are an excellent method for disseminating course materials without pushing the materials at students. They are a laidback approach to dissemination. This is primarily what I use a module webpage for.

The Department of Computer Science has an excellent setup for module websites. Every module description is automatically online so the module description I was given at the beginning of the course was there already. Additionally, there is a dedicated webfolder

for every module, giving modules a sensible web address but, within that folder, staff are free to produce whatever content they like.

I basically produce a hub page for the materials that support the course. Students would be able to go to that page to find out all the materials (which might be available in other forms) that could be used in the course. The top of the page is practical things like where and when the classes are. After that I place lecture slides, practical descriptions, sample exams and possibly other articles and readings that would be useful.

This saves me having to produce handouts but also as I do not expect students to find my slides useful, I am not displacing the cost of handouts to students either.

I have considered using the website to provide activities for students. However, good online educational materials are very time consuming to produce and though the idea is nice, I am not sure I have the time or skills to do them properly.

Assessment

THEORY OF MUSIC

- a **Assessment objectives:** Theory of Music examinations aim to give students opportunities to acquire a knowledge of the notation of western music (including the signs and terminology commonly employed), skill in constructing balanced rhythm patterns or completing given melodic or harmonic structures, and an understanding of the fundamental elements of western music, including the nature of intervals, keys, scales and chords. Candidates are assessed on their ability to identify, use and manipulate conventional music symbols, to complete musical extracts and to answer questions relating to the elements of music within the parameters detailed below.
- b Copies of the question papers set in the Theory examinations for each of the preceding five years are available via music dealers or, in case of difficulty, www.abrsmpublishing.com. Model answers for papers from 2006 are now also available.

Theory GRADE 1

- 1 Note values of semibreve, minim, crotchet, quaver and semiquaver, and their equivalent rests (candidates may use the terms 'whole note', 'half note', etc.). Tied notes. Single-dotted notes and rests.
- 2 Simple time signatures of $\frac{2}{4}$, $\frac{3}{4}$, $\frac{4}{4}$, bar-lines and the grouping of the notes listed above within these times. Composition of a two-bar rhythm in answer to a given rhythm starting on the first beat of a bar.
- 3 The staff. Treble (G) and bass (F) clefs. Names of notes on the staff, including middle C in both clefs. Sharp, flat and natural signs, and their cancellation.
- 4 Construction of the major scale, including the position of the tones and semitones. Scales and key signatures of the major keys of C, G, D and F in both clefs, with their tonic triads (root position), degrees (number only), and intervals above the tonic (by number only).
- 5 Some frequently used terms and signs concerning tempo, dynamics, performance directions and articulation marks. Simple questions will be asked about a melody written in either treble or bass clef.

Theory GRADE 2

As in Grade 1, with the addition of:

- 1 Simple time signatures of $\frac{2}{2}$, $\frac{3}{2}$, $\frac{4}{2}$, $\frac{3}{8}$ and the grouping of notes and rests within these times. Triplets, and triplet note groups with rests. Questions will include the composition of simple four-bar rhythms starting on the first beat of the bar and using a given opening.
- 2 Extension of the staff to include two ledger lines below and above each staff.
- 3 Construction of the minor scale (harmonic or melodic at candidate's choice, but candidates will be expected to know which form they are using). Scales and key signatures of the major keys of A, B \flat and E \flat , and the minor keys of A, E and D, with their tonic triads (root position), degrees (number only), and intervals above the tonic (by number only).
- 4 More terms and signs in common use.

Theory GRADE 3

As in preceding grades, with the addition of:

- 1 Compound time signatures of $\frac{6}{8}$, $\frac{9}{8}$, $\frac{12}{8}$ and the grouping of notes and rests within these times. The demisemiquaver (32nd note) and its equivalent rest. Questions will include the composition of a simple four-bar rhythm which may start on an up-beat.
- 2 Extension of the staff beyond two ledger lines. The transposition of a simple melody from the treble clef to the bass clef, or vice versa, at the octave.
- 3 Scales and key signatures of all major and minor keys up to and including four sharps and flats, including both harmonic and melodic forms of minor scales, with their tonic triads (root position), degrees (number only), and intervals above the tonic (number and type).
- 4 More terms and signs. The simple questions about a melody may include one on its phrase structure.

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Artefact for Assessment: *First page of [Graded Music Examination Syllabuses](#) from the Associated Board of the Royal Schools of Music*

The formal, and therefore, summative assessment of the course was pre-determined for me and was to be a single one and a half hour exam worth 100% of the assessment for the course. The formative assessment was naturally open and I had hoped that the practical sessions would provide an opportunity for a regular feedback mechanism throughout the course. The details of the form of these assessments and what I tried to achieve with them in terms of educating students are in the following sections. Feedback about and from assessment is an interesting question for my course yet largely absent so this is discussed separately.

There were also more informal opportunities in which I could assess students through their contributions in lectures but as these were unplanned and unrecorded, it is hard to qualify how they contributed to the students' education.

Summative assessment: exam

The exam was determined to be a one and a half hour exam and would be worth 100% of the marks for the course. This is a departmental standard for a 10 credit module. On closer examination of exam papers within the department, it is also clear that an unwritten standard is that papers consist of a section A of short answer questions and a section B of longer, more substantial questions and possibly some degree of choice. Other than that, the structure and break down of the exam is not specified.

In many ways, an exam is less than ideal for HCI which is such a practical subject where the end point is functioning designs and any knowledge is subordinate to those designs. It would be more sensible to have the students engage in some practical activity. However, there was little I could do about it so to compensate, I used the practicals to provide formative assessment along the lines of what any summative practical assessment would have done.

The division of the exam into section A and B at first felt uncomfortable. I could imagine how the unspoken division of the exam works well with something like maths or databases but again, it is not clear that for something like HCI where examinable knowledge is qualitative and contextual compared to more quantitative or absolute answers of computer science. Having said that, a division into factual questions and more substantial questions is at least recognisable and is a meaningful distinction to make between types of question.

Moreover, it is not necessarily the case that examinations are inappropriate in very applied disciplines. To illustrate this, the artefact for this section is the Associated Board of the Royal Schools of Music syllabus for theory exams. Music is perhaps the ultimate in abstract human experience where musicians communicate moods, feelings and emotions to the audience abstractly and ephemerally. Yet, the theory exams are considered important to qualify as a musician. Indeed, you cannot achieve grade 8 in performance without at least grade 5 theory. To me, this captures the huge importance of basic factual knowledge in order to achieve the pinnacle of human creative expression. It also undermines the self-directed learning that is currently fashionable because there is no way that a single musician, no matter how talented, could absorb and reinvent the musical factual knowledge that would be necessary to do justice to a broad range of musical performance.

The same then can be true of HCI. The factual aspects examined in section A provide the syntax and the vocabulary of the HCI discipline and section B addresses the application of that to express deep ideas about the semantic content of the discipline. Again with reference to the musical theory grades, it is interesting that at grade 8, students are

essentially expected to create a new piece of music within constraints to demonstrate their knowledge. The theory is not even just in order to improve performance but about a deep, and hence generative, knowledge of how music works.

Thus within this format, I chose to have four, short-answer, compulsory questions worth around 10% each for section A. These questions I decided would test basic factual knowledge such as what is a heuristic? what are affordances? and how might these facts be relevant to user-centred design? This would require attendance at the lectures and some revision from textbooks.

Section B was more difficult as I felt choice was appropriate to MSc students — they could not be expected to provide an in-depth knowledge of an arbitrary topic. However, it should push the students by which I mean require them to be critical and also to be more widely read than the minimum. Whilst it would be possible to provide different questions on different topics, it could still be quite challenging for students to find a topic and answer in-depth. I therefore gave the students a single question and they chose the topic from a long list of HCI topics and they answered the question on that topic. The question basically directly asked the students what the topic was, why it was useful within the scope of UCD and to critique the method with reference to the literature (other than textbooks).

I have used the word “topic” here because initially, I planned to use a word like method or technique. This is appropriate for things like scenarios. However, some things such as accessibility are not methods *per se* but important topics for UCD and visual design is not a method but rather a set of well established principles.

Given that this was probably a very new style of assessment to the students, certainly those unused to more essay-like, I produced a sample exam paper. The final question was identical to the actual final question only the topics were changed. I felt that this gave the students a good chance to think of topics in advance and prepare themselves appropriately.

Formative assessment: practical

Whilst exams can have their place in applied subjects, it would be odd to have no practical element to teaching HCI. The goal of the practicals was to provide an opportunity for students to engage in a design project and apply the knowledge from the lectures to the process. The design of the practicals and their failure is discussed in the Instructional Design section of this portfolio.

The intended formative assessment would be that students would be guided in the practicals what to do outside of the practical sessions. They would then do these things and bring back to the next practical what they had learned. There were two demonstrators who could discuss their work and help them to see what they had done well, what they may have missed and what they might have done differently. As part of this feedback process it would be natural for the demonstrators to make explicit the links to the lectures, where they occurred naturally.

There would also be an opportunity for more formal feedback by having the students present their design work in the final practical of term. This would allow them to see each other’s ideas, provide feedback to each other on what might have been done and also to reflect on what they themselves could do better. This was to be accompanied by a report indicating what was done and asking the students to reflect on what they might do differently.

Unfortunately, as the students did not engage with this process, this whole feedback mechanism rather fell apart. A lot of practical time was spent exhorting students to

work and to trust the process and also persuading them not to worry about failure but to try things out.

In the final session, students did produce presentations and had PowerPoint wireframes to show for their activities. In this sense, the process had worked. However, from the presentations it was also clear that only some groups had attempted a UCD approach and others had simply talked to a couple of friends and then produced a website that they would have liked to use. Unfortunately, a formal presentation is not a good place in which to say that the work is not up to a good standard.

I used the design reports to provide more detailed, constructive feedback on what was missing and what would have made the activity more user-centred. The idea with this was that I would identify where students had not seen the full possibilities that were available and this might give them something to think about when revising. Students were told that these would be available to collect before the exam but only one group actually collected their work before the exam.

Feedback to students

There are two formal feedback mechanisms at York. The first is the tutorial system where students meet in small groups with a tutor once a week in term time. This is an opportunity to discuss anything about their course and to engage in discussion on the discipline that the course may not formally or explicitly cover. Tutors need not be lecturers on the programme that the tutees are taking. The second is a new mechanism where students are able to attend a special session where they can read through their marked exam scripts. This was done for the first time this year and HCI was one of the modules chosen to try out the procedure.

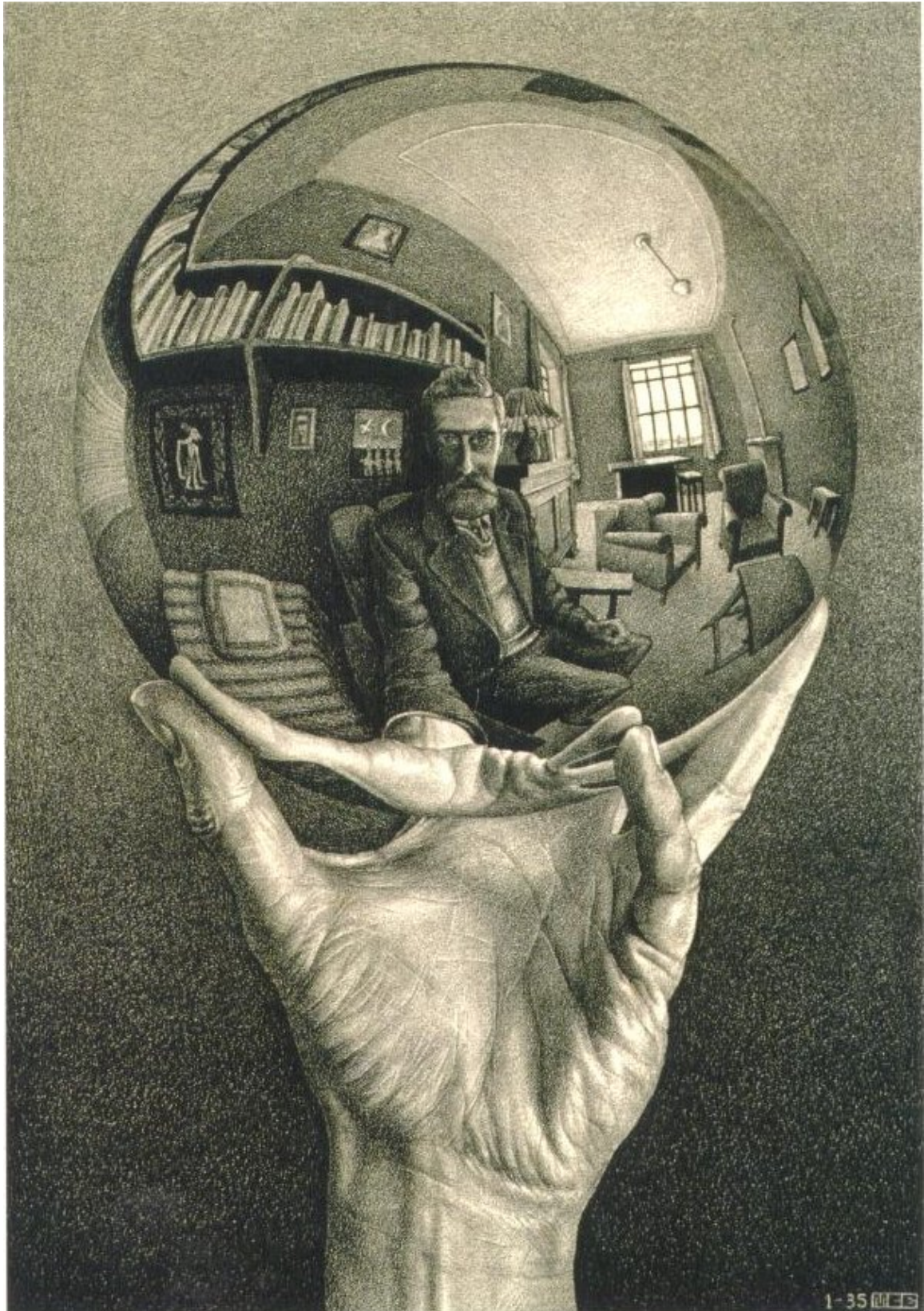
These mechanisms are both good and I think could really help students. However, as tutors are not lecturers, they rely on students to raise problems with classes. Thus, if the students do not discuss the HCI module, it may not necessarily be raised at all.

The exam mechanism may seem to be shutting the gate after the horse has bolted. However, some modules have exams in the first week of January, HCI being one such. This means that if students are unconfident or unsure about exams, this is an opportunity to re-assess their performance in light of their grade. Half of my (small) class did use this opportunity, which I feel reflects the value that this could have to students. It may also be that MSc students, some of whom have been out of higher education for a while, can particularly benefit from a chance to think again about how to do exams.

One student also asked to discuss her exam performance with me. It turns out that this is easy to do in York as well and I was able to provide her with detailed feedback on her exam and what, in particular, had let her marks down.

Outside of these formal mechanisms, I had relied on the practicals to be the main way of feeding back to students on their progress. But, as a result of the poor engagement with the practicals, the opportunity for feedback to the students was severely limited. It seems to me that more diverse opportunities for feedback may be more effective and this is something that I will look to develop.

Evaluation



Artefact for Evaluation: *'Hand with reflecting sphere'* by MC Escher

Higher Education is clearly very fond of evaluation at the moment. Everything is evaluated from lecturers, lectures, research, students and even the institutions themselves. At the heart of things, I think there are two forces at work here. First, we like to think we are “good” but anyone with a reasonable level of self-awareness will realise that the best way to know if we are good is if someone else tells us this. Thus, we like mechanisms that tell us, not necessarily objectively but at least externally, whether we are good or not. Secondly, students, employers of students, our institutions want to make sure that they are getting value for money from what they invest in. So students want to know that their degree is a good one from a good university, employers want to employ good students and universities only want to employ good lecturers who only want to work for good institutions.

Thus it seems that evaluation ticks lots of boxes all round. However, the problem is that learning at this higher level (and probably all levels) is intrinsically difficult. That’s where its value lies. Education can be arduous, painful and even depressing at times but the resulting education can be excellent. For example, in my experience, writing an essay can be a huge investment in time and effort not only in the writing itself but reading supporting material, digesting it and the reforming it for the essay. There can be stress in struggling with hard material and writing in time for the deadline. None of this need be particularly happy. The final essay may still be poor and there is the whole impact of getting a poor mark for a huge effort. But the essay is only a pale image of the actual work done and the actual educational experience had. Obviously, the final goal would be to learn how to produce “good” essays but any individual essay is always open to the possibility of being poor. Yet no matter what the final essay is like nor the *experience* of undergoing this intense, taxing and frustrating process, the actual education received as a result can be excellent and be the grounding for much better essays in the future: maybe not today’s essay or maybe not tomorrow’s essay but eventually the essays of the rest of your life.

Now take this experience and translate it to student life. Because a student had a miserable time in my class being made to do things they only barely understood only to receive marks that weren’t very good, does this mean my teaching was bad? Was the education poor? Is the institution wrong to let me teach this way?

In thinking about these questions in my teaching experience, I will break down evaluation into the different components that I see being evaluated around my course and try to think about the impact evaluation has on the educational experience.

Lecturer

Like many departments, Computer Science has two mechanisms for obtaining feedback on the performance of lecturers. The main mechanism is student feedback on the lecturer as measured through a questionnaire. This consists of 5 Likert scale questions about the lecturer’s ability to communicate, enthuse and make the subject interesting. Students complete these and also an open question about how to improve the lecturing. The results are aggregated to give overall distributions and the median for each question. These are more or less public.

There is a second mechanism in which lecturers are evaluated by each other. This has an essentially free format but the paperwork is centred around the learning outcomes for the session. Feedback is personal and not public though there is a separate form on which to report examples of good practice, of potential staff development and issues with the

resources need to run the session successfully. Thus, it is clear that the peer observation is supportive, is not an assessment of performance to be used formally but that there are mechanisms to inform the department.

It is easiest to deal with the peer observation first. I think this is an invaluable way of finding out how things are going. My peers do the same job as me. They think about delivery of lecturers and classes, they face similar students and similar problems. They also know the subject (at least in passing) and so have familiarity with the problems and challenges of teaching particular aspects of the subject. I valued my peer observation greatly this year. In particular it pointed out that I wasn't really giving examples of my lecture content when really it would have been so useful for the students to see examples and also so easy to provide them.

In addition, I enjoy seeing other people's lectures. The peer review process helps me by giving me a chance to see what other people do, what works for them and which aspects of lecturing challenges them.

Peer observation, for me, is an excellent way of evaluating me as a lecturer. I appreciate being observed and I learn from observing others. This relies on the process being done in an honest manner but I have yet to see any lecturer not engage with the process well and provide honest and supportive feedback.

The contrast with student questionnaires is stark. Whilst clear communication (written and spoken) is essential and important, the rest of the things asked are largely irrelevant. A lecturer need not be enthusiastic or make a subject interesting. Students can provide these things for themselves — it is *their* education. And asking students to comment on how to improve my lectures is basically rude! These are people with almost no formal knowledge of educational practice, certainly not at higher education nor of the challenges faced by lecturers. Yet somehow they are expected to provide insight into how to improve classes. HCI has known for a long time that users are not designers yet the tacit assumption is that students are lecturers. It is an equally poor way in which to conduct a professional activity.

Of course, it could be said my marks are fine so I can be critical from a safe place. But two things bother me in this feedback process. First, if I weren't enthusiastic or interesting or even clear (in the way students want), what on earth could I do about it? There is no implicit support for the lecturer in this feedback process. Secondly, my experience is that all such questions are in fact dominated by an underlying factor of how much they like the lecturer.

Students know as well as we do that these questionnaires are used summatively within departments and so avoid giving bad marks to lecturers whom they like. A prime example of this was from my previous job when I ran undergraduate tutorials. I was rated on my teaching of presentation skills yet despite teaching no presentation skills at all, and having told the students this at the beginning of the term, I managed to achieve a median of 3 out of 5. The students did not give me a bad mark, despite *no* teaching on this area, because basically they quite liked me.

Such questionnaires are therefore unsupportive and unreliable. They do not reveal to me or anyone how good a lecturer I am. Nor offer support to improve. Yet we do them and every other department I have been in does them. It seems to be a form of collective madness.

The person of course best placed to assess me is the person who is both an experienced lecturer and attends all of my lectures: me. Whilst I am expected to mark my exams honestly and report my research honestly, nobody thinks to ask me whether I rate myself

as a lecturer presumably because they don't think I would do it honestly. Yet most lecturers are able to look at their performance and talk about what worked and what did not and moreover we frequently do talk to our colleagues about it if we think things have not worked in a session.

My artefact for this section represents the self-evaluation that I think is critical in lecturing and that most lecturers engage in. We hold up a mirror to ourselves and try to understand what we see. The mirror though is distorted so that, just as the ball distorts Escher, his hand and the room he is sitting in, we do not necessarily perceive ourselves wholly accurately. Nonetheless, we are able to provide a reasonable reflection to ourselves and I would think to others as well. Peer observation in many ways, helps to counter-act the distortion in self-reflection but only in a snapshot of our practice. We are still the people best placed to evaluate our performance.

Lectures and classes

When it comes to lectures and classes, there is only formal mechanism for assessing whether these sessions are good. This is in the form of student questionnaires. There is one questionnaire per module and students are asked to complete a set of these after each term's teaching. The form itself is broken down into:

1. Content and structure
2. Assessment and feedback
3. Learning resources
4. Practicals
5. Overall satisfaction

The first part concentrates on academic challenge and pace of delivery. The second has one question each on feedback and assessment. Learning resources covers handouts, books, webpages and IT with one question on each. Practicals are considered for relevance, interest, learning and demonstrators. The final section asked students to self-assess if they had achieved the learning outcomes based on the teaching and if they were satisfied with the course.

There is no doubt that if there were problems with the running or organisation of the course then these questionnaires would be a first point at which issues could be raised. Interestingly though, these questions are not asked *during* the running of the course so if there were a serious problem with the module then that particular cohort of students would be left at sea. Thus, these forms are clearly intended summatively. They really are trying to say whether or not his module is "good." However, I feel that the process is aimed at what can be measured (student perception) and not any deep evaluation of what a "good" lecture or class or module really is. In particular, if the module was too academically challenging for a student, is this because the student wanted to work less? Or because the subject is hard? Or because the lectures were poorly structured? And if everyone agreed that the module was academically challenging, would that be a good or a bad thing? There is simply no depth to such questions.

The module would be good in terms of the content if it clearly addressed the learning outcomes. Students can to some extent self-assess on whether they achieved the outcomes

however, learning outcomes have a particular language and are necessarily terse. A student may not know what it means to fully address a learning outcome.

Also, if students failed to engage with the module, for whatever reason, they may fail to achieve the learning outcomes. Is this the module's fault? Some of the other questions strive to address what might be wrong. In my module, I know students did not engage with the practicals or use them to motivate their reading and study. They missed out on a huge opportunity to apply their knowledge and hence strengthen it. In part this is my fault in that I didn't force the students (even benignly) into engaging with the practicals but also the students did not trust me to engage with the activities I prepared for them. Was this a bad module? I don't think so but the students certainly have no insight into why I think that.

From my philosophy of the HCI module, the key thing was that students ended the module with a positive attitude to user-centred design. This is certainly impossible to measure and students may not even be aware that they have such an attitude until it is put to test in a real situation. No questionnaires nor even exams can identify that. However, I think it is a key educational outcome and if all students left my module with that attitude then it was, to me, a resounding success — a good module. But when education is so nebulous, how do we know if this is a good module? Objectively, we do not. The long term impact of the module may never be seen whilst the students are at university.

From my perspective, just as I know how I am doing as a lecturer, I am also aware of how different classes and lectures are going. Experience can tell me if students are engaged in the activities I set them to do. Their questions in class show me the level of understanding they have. Their feedback to activities indicate the style and range of thinking they are engaging in and the confusions that arise. Also, even just student attitude and demeanour in class tells me a lot. We as humans are excellent at reading people through faces and posture. It is a highly evolved skill. Even standing at the front of a lecture and talking at the students, I think we can tell how the mood in the class is. From these cues, I think, we as lecturers, can get a sense of whether students are engaged, whether our delivery is working and from the activities set, even just questions, and feedback received get a fuller sense of what the students are learning. These are more important indications of a good module than any questionnaire.

Students being and working in class provide a mirror to ourselves and our teaching. Again there is distortion because sometimes we see what we want to see or avoid seeing what we do not. Reflection and peer observation can sometimes jump us out of our distortions but questionnaires do not.

Students

Primarily, we evaluate our students via assessment and most other institutions would say the same. Assessment is described and discussed as its own section in the portfolio so I discuss here how it relates to classifying students as "good."

Assessment is ostensibly against the learning outcomes and converts a student's performance against the outcomes into a percentage mark. Stating the evaluation this starkly shows to me the apparent ludicrousness of the procedure. How can any complex idea like achieving a learning outcome be reduced to a percentage? In some sense it is not possible. It is the same problem in HCI as classifying users as novices or experts: it is an artificial distinction that hides significant contextual matters. If however, the question is not one of how well educated is this person but instead, how much does this person know about a

topic, then statistics comes to the rescue. Because, at least theoretically, 'how much' is a quantifiable and comparable term. Any one measure of knowledge may be noisy but multiple *distinct* measures reduce to a normal distribution whose location indicates the overall value of how much a student knows.

There are some assumptions here. First, there needs to be circumscribing of what knowledge is being tested. Secondly, it needs to be tested by the measures used, that is the measures need to have validity. Learning outcomes and good exams address these points. But statistics only helps if we make multiple distinct measures. That is, one exam is not enough. We need an exam, an essay, a group work, an individual coursework and class activities. Then we might get at what a student knows. Instead, we seem to replace this with one or perhaps two distinct measures and hope for the best.

This is a complicated way of saying that I am not against assessment as invalid. Rather it needs to be viewed as a suite of activities. Assessing a single module with one exam may reflect little of what a student knows. But across all the modules in a degree, a clear picture can emerge.

However there is a deeper problem in that for a good education, it is not only what is known but what a student is able to do with that knowledge. Again, we can circumscribe what applications of knowledge a student has to demonstrate but a truly great education is not circumscribed. The brilliance of education comes from applying knowledge of classical Greek history to the issue of parking fines in York city centre. Through the discipline of study, a person improves not just one aspect of their thought but all aspects.

Perhaps all we can do is acknowledge that an exam mark is the most distorted of all reflections of what is good in education. But all such assessments are like that. We then trust that overall, an accurate picture does emerge whilst acknowledging the boundaries put on what we are able to test and represent when we say that students are good.

Degrees

The whole point of education, from society's perspective is to get a degree. A student that goes through university and drops out or fails to get a degree has wasted time and money. And being members of that society, most students, employers and lecturers would agree.

The overall question then is: does the student have a good degree? We can perhaps indicate what good means in this context: the measures, the limitations. Does it matter that I the lecturer was good or bad? Or that my module was good or bad? If the overall degree is good, why would that matter?

There is also an induction fallacy. "These students went to York and got good degrees so other students who go there will." But students change. Staff change. Degrees change. In some ways, a student who spends three years at university trying to get a degree or trying to enjoy the experience does end up being well educated. The university may offer better opportunities than other places and therefore more opportunity for education. But a person who succeeds in a poorly supported, poorly organised set up has as much opportunity to be educated as someone who goes to Oxford or Harvard.

I think some of this comes back to accountability. If the student does *not* get a good degree, whose fault is it? Is the student weak? Is the lecturer? The module? The university? When things are going wrong, accountability is useful. Not because allocating blame is useful but because by recognising the source of problems, there is the opportunity for improvement. But for proper account to be made, the methods of evaluation need to be sound and I do not think they are. All we can say is that they measure something. From

a distance most people can not tell the difference between a good measure of educational practice and a bad one and yet will base life-changing decisions on these measures.

Delivery



Artefact for Delivery: *'La condition humaine'* by R Magritte

The aim of this portfolio is to capture the practice of teaching HCI. The portfolio elsewhere attempts to capture elements of course content, structure, resources and assessment — the meat of the course. However, the one element that remains missing is what it is like to be taught by me. That is, what is that I bring to the delivery of the HCI teaching.

This is of course a hard thing to say. From my evaluation section, I believe we are able to reflect on our performance as lecturers but to then say what it is like to be taught by me is a whole different leap from self-evaluation to attempting to describe myself as experienced by others. In this section then, I restrict myself to what it is possible to observe about my delivery and why I have chosen my delivery style. I use as the basis for this a framework for observation of classroom behaviours being:

- Affective
- Cognitive
- Psychomotor
- Activity
- Content
- Sociological structure
- Physical environment

As activities, cognitive (vis intellectual content), content, activities and physical environment are covered already in the portfolio, I focus here on sociological structure, affective and psychomotor.

In many ways though, I view lecturing as a form of theatre. This is not in the sense that lecturing is a form of entertainment but rather that I am an actor on a stage that needs to communicate with an audience. What I am communicating is genuine but a lecture or class is far from a normal setting for face to face interactions. There is not the opportunity for extended, individual conversation and nor would it be appropriate. Instead, there is an etiquette and formalism in which not only am I central to the activities in the classroom, I also have authority to change and direct those activities. This is also far from many normal settings so I adopt a lecturing persona or character like an actor in order to manage the interactions and be effective in communication. I am not however intending to be a person other than myself — I am rather being myself as if I had to be a lecturer. For this reason, my artefact is Magritte's painting *La condition humaine*. The painting in the easel is not the actual view out of the window but a painting of the view so that though the two coincide in many ways, the painting is able to function differently from the view itself. My lecturing persona is not me but it is a representation of me that can function in a lecture.

Sociological structure

The sociological structure of the classroom is, for me, the dominant feature of the setting and so is worth setting out first. I believe that the key to lecturing is that I have something unique to offer students and that makes me the most important person in the lecture or class. I need to be able to be free to communicate with the class and have the authority to guide the activities in the class.

Thus the dominant sociological structure is one of me as a figure of authority who guides the activity within the class room and also provides the bulk of the content of the classes. This is not to say that I am authoritarian but I do expect students to come to order when I ask them to, I do ask direct questions of groups and individuals within the class and expect answers and I expect people to engage with the activities I set them. This does not require much from me as students are generally familiar with an authoratitive teacher and hence respond reasonably well to being guided in this way.

As well as this, I try not to be too formal. I walk around the full area of a classroom, I encourage students to interrupt and ask questions and, during group activities, I do not try to direct exactly what students do or how they do it.

Overall then the effect I strive for is orderliness that allows students to engage with the material and the exercises but nothing beyond that. For instance, I don't mind if students arrive late or if they leave early (all done so as not to disturb others though). I also do not mind deviating from a topic if students are showing a clear interest in something that I had not specifically prepared.

Affective

This aspect of behaviour is concerned with the emotional content of communication. Whilst I want to be in charge, I do not try to be distant from students. I try to learn their names and use them so that they know that I know them. I do not try to be funny but I am happy to be cheerful and show enjoyment for what I am teaching either through telling stories or references to films and books that students might know.

I will tell students to be quiet and shush them but I try to do it in a semi-serious way. That is, students may well be talking about good things to do with subject and helping each other. I just need them to be quiet so that others (including myself) can be heard. So talking in class is not bad but it must not be rude either.

In responding to students questions or feedback from students, I try to be open to what students have to say. All points will be heard in full. However, I also aim to give a value to their comments such as "that's a good question" or "I think you are missing the point." The idea there is that students know I am listening but also that not everything that is said is equally valid. This is because students' comments are not just for themselves but are part of the communication within the class. It is good to support students and not make them feel stupid but it is not fair to accept as valid comments or questions that are not accurate or reliable. I am also happy to answer "I don't know" to student questions. I have authority in the lecture but it is not all encompassing. And when I do not know something I either ask the student to find out or promise to find out for myself.

Psychomotor

Many years ago, before I was a lecturer, I attended a two-day presentation skills course. Much of my teaching style has grown out of the lessons of that course, in particular, my gestures, posture, movement and expression. In many ways, what the course taught was how to remove barriers between yourself and the audience. There are gestures and postures that socially indicate anxiety or lack of confidence, ones that prevent good projection of the voice and others that prevent a sense of personal contact with the audience.

The first thing I do in almost all classrooms, where possible, is move tables and chairs so that there is nothing between me and the class. Thus, I have nowhere to hide but also

I am free to move into the classroom if I want to. I then generally adopt a square stance directly at the audience and keep my arms by my side or gesturing away from my body so that my body posture is open and inclusive. All of these efforts are intended so that there is no barrier between me and the students. The result also projects my confidence and I think is very helpful in making me the authority within the classroom.

As a side comment, I also use these same techniques when giving seminars or talks at conferences where I may be far from confident. But the effect is actually to help give me confidence as well.

I try to think about eye contact with people. I look directly at students who are talking to me but also deliberately respond to them and the whole class by looking at other people whilst responding but finishing with the person who asked the question or made the comment.

I will walk around the front of the class to some extent. This is in part usually because of the positioning of IT equipment for projecting the slides. It is often to one side but I want to be in the middle. But also, I am trying to be equally present in the class to all the students. Thus, I do not want to stay on one side of the class or the other and thus have more engagement with one part of the class over another.

I will also walk amongst the students whilst they do exercises. I sometimes use this to eavesdrop on group discussions but I have also found that by not being at the front, students are happy to catch me and ask questions about the exercise. The problem can sometimes be that I am sucked into talking to one group over all the others but this is not always a bad thing and so long as it is not always the same group, I think it is alright.