

Embracing Ignorance in Higher Education

Professor Ruth Soetendorp
Centre for Intellectual Property Policy & Management
Bournemouth Law School
Bournemouth University
rsoetend@bournemouth.ac.uk

Ignorance receives a bad press, which it doesn't deserve. Negative, and unwarranted, associations with 'stupidity' and 'foolishness' can make ignorance a quality from which to shy, or for which to apologise particularly when 'education' is on the agenda. 'Ignorance plays in the cultural imagination as the figure of error and the absence of rational scientific thought. As a pedagogical phenomenon, ignorance is understood to be ignoble at best, evil at worst. It is seen to frustrate the work of knowledge and therefore the work of teaching, to have no valid place in the work of pedagogy'(Mosher 2003). But ignorance as 'unknowing' or as 'preparedness for learning' has enjoyed some highly respectable champions. For Socrates knowing that one was ignorant was a far better state of affairs than possessing beliefs that were untrue. For Benjamin Disraeli 'To be conscious that you are ignorant' was 'a great step to knowledge'.

Year on year the knowledge necessary to pursue a career in medicine, law, engineering, fashion design, whatever, expands. It has become impossible to encompass all the knowledge necessary in the curriculum of a programme of study. Even if it were, it would be swiftly outdated. 'We will not escape our predominantly medieval view of curriculum, premised on knowledge as static and finite, until education learns the lessons of modern inquiry' (Wiggins-Grant 1989). As a result, learners have to be prepared, through their studies, for the situation that they will encounter on graduation. Whilst they may leave university with sound theoretical underpinnings on which to build, it will be with a clear understanding of an ignorance 'gap' that will require attention throughout their working life. For them, lifelong learning is neither trite, nor an aspirational government policy, it is an imperative. To be effective, lifelong learning requires the learner to be stimulated by an awareness of her own ignorance, rather than placated by knowledge already acquired.

Our ignorance is always going to be greater and more persistent than all the knowledge we will ever acquire. In which case, how do we accommodate ignorance as a respected prerequisite and positive catalyst to learning? That question to lead to further questions. Who has a problem with ignorance in the classroom? Is it the teachers or the learners? Seeking answers in the context of practical learning and teaching experiences was the starting point for this paper.

Background

I am an academic lawyer, and questions about ignorance began when I started to teach 'my' subject beyond the law school. My legal specialism is 'intellectual property rights'[IPRs] which are of significance to lawyers, who advise people on how to manage them. They are even more significant to non-lawyers, the musical, literary, artistic, innovative, inventive people who create them, through the manifestation's of their minds. Intellectual property rights are a legal mechanism or device for enabling people and companies to exploit commercially their innovative output. They are rooted in international intellectual property law. It is a subject that forty years ago did not feature on the UK law school curriculum. Yet today it is one of the most popular law school electives.

In economies moving from a manufacturing to a knowledge base, IPRs provide the vehicle to trade successfully in innovations as diverse as biotechnology and entertainment; as diverse as software solutions and branded fashion accessories. IPRs may have their 'roots' in the law, but successful

management of IPRs has 'branches' in management, finance and valuation, marketing, governance, accountancy and many other aspects of business activity. It didn't take long for a realisation to emergeⁱ that a basic understanding of IPRs is something that should feature in the curriculum of graduates who will be creators of IPRs, including engineers, scientists, technologists, and creatives.

In 1996 the UK Patent Office funded a small research project at Bournemouth (Soetendorp 1996) that explored the extent to which students from various disciplines would value being taught about IPR. The results showed that whereas the students didn't feel that knowledge of IPR was relevant to their current course of study, they were very firm in their belief that it would be relevant to their future career. The students were positive about having been given an opportunity to engage with something they could see was significant and important to their future.

'I can't teach this subject because I don't know anything about it'

The academics were not so sure. Engineer academics, invited to comment on teaching IPR, reflected attitudes found in other researches (Harper et al 2000): 'If we had decent students we wouldn't have to teach this' and 'I can't teach this subject because I don't know anything about it' and 'I have never studied this subject'. Of course, there were the odd individuals who shared their own experience of IPRs with their students, or who knew a local from IPR profession prepared to come and speak. But by and large, they were content for their students to graduate ignorant of an important topic, because they themselves felt ignorant on the subject.

This response made me uneasy when I first encountered it, and that unease continued to grow. Something was amiss if 'ignorance' could be used as a 'get out of jail free' card to avoid the challenge of introducing something new into the classroom. It jarred with my understanding of a teacher. Not merely the 'impartor of knowledge', a teacher should stimulate a love and curiosity to pursue knowledge, who would motivate, and be a facilitator of learning. A further question arose. Once a teacher realises that she too will never know enough to teach her students all they will need to know, what influence does that knowledge have on her teaching? Is it intimidating or liberating?

'Teachers who do not protect their students from ignorance are more easily positioned as bad teachers'

Alison Jones (2001) suggests the traditional (Hegelian) basis of education and pedagogy is not in radical uncertainty, but in the knowability of things. 'Indeed, the idea of the not-known is usually understood in terms of the still-to-be-known or the potentially-knowable... Within this traditional frame, a sense of possibility – of 'knowing everything' - although never achieved or achievable is the implicit pedagogical ideal.' Her research was into the perceptions by white women students in New Zealand of their Maori or Tongan teachers. She describes the effect on students of teachers who would not provide the sort of knowledge that suggests 'we can do this together'; whose teaching did not imply that a 'redemptive communion' was possible. The assumption of 'happiness and conceptual clarity' expressed in the desire for 'unity-through-knowing' that many students and teachers share was seriously threatened in a classroom where the teacher failed to enable that assumption (at least for students who feel they are entitled to it). By being authoritative harbingers of the unknowable, of uncertainty.. they were seen as 'hurting' the unhappy... students who felt 'marginalised' 'disrespected' 'disconcerted' 'uncomfortable' and 'guilty'. 'Such teachers,' Jones comments, 'engender in students not so much a feeling that they do not know something, which will always be the case in the classroom; rather they introduce an 'end to the blissful assumption' that students could know everything. Much is invested in this assumption and teachers who do not protect their students from this aspect of ignorance are more easily positioned as ungenerous, mean and bad teachers.'

No teacher wants to be labelled 'Ungenerous, mean and bad' particularly in a climate in which tenure and promotion can be influenced by student satisfaction data, collected in e.g. Quality

Assurance Agency or National Student Satisfaction Survey reports. It is one thing for fear of poor student feedback to inhibit poor teaching, but it should not inhibit a teacher experimenting with the knowability of subjects of which she herself might feel ignorant.

What exactly is ignorance and how should teachers use it?

Smithson (1989) has devised a taxonomy of ignorance which embraces a hierarchy of states of unknowing:

IGNORANCE						
Error (type 1 ignorance)				Irrelevance (type 2 ignorance)		
incompleteness			distortion		untopicality	taboo
uncertainty		absence	confusion	inaccuracy		undecidability
vagueness	probability	ambiguity				
fuzziness	nonspecificity					

He distinguishes Type 1 Ignorance which consists of various kinds of Error, and Type 2 Ignorance which covers various kinds of Irrelevance. Ignorance founded in 'Error', where knowledge is 'wrong', based on incompleteness and uncertainty can lead to confusion and inaccuracy, which is best cured through clarification. Ignorance founded in Irrelevance, including absence of knowledge or knowledge that is untopical, taboo, or undecidable, is best cured through inquiry or research.

Smithson's taxonomy must be approached on the understanding that since there are no resources in the world that would equip anyone to pin down all knowledge, we are all forced, all the time, to choose which knowledge we will pursue, and which we will do without. Making that choice in a university classroom involves a complex interaction between teacher and learners, where teachers can feel intimidated by their lack of knowledge or ignorance. Coldicutt & Williamson (1993) suggest that analysis of ignorance can be used for any problems and bodies of knowledge, and apply it to addressing problems in the built environment. 'Analysis of ignorance provides an explicit systematic approach which can be used to explain the common sense behind much existing practical problem-definition. It puts the decision-maker into the problem as an explicit part of it, and thereby makes it possible to deal with otherwise insurmountable difficulties of determining relevance and irrelevance.'

Mosher questions whether education should be seen as the 'intervention that purges the world of ignorance'. So long as education is perceived as a 'linear redeeming movement from ignorance to knowledge' teachers feel compelled to expend their efforts to cover the curriculum, and ensure that the curriculum never exceeds the bounds of their knowledge. In such an environment, students will be reluctant to admit to not knowing. Rethinking the value of 'unknowing' in the class room may inspire in students and teachers a sense of vigilance, responsibility and witnessing. 'Unknowing is an act of embracing otherness and presents a curious element of redemption, in the lack of knowledge, the meaning of its absence is found.' (Zembylas 2005)

Mosher suggests that 'When people are uncertain and cannot offer an answer they may be intimately, generously dwelling in the difficulty and elegance of a question – they may be standing in the juncture of their own possibilities.' The 'difficulty and elegance of a question' underpinned the Socratic approach to dialogue. Through cross examination, known in Greek as 'elenchus' Socrates aimed to shame his disputants into an acceptance that 'their beliefs were false and in need of revision'. His 'elenctic' questioning was designed to 'break down in order to build up'. The natural outcome of the elenchus is 'aporia' or confusion. Whilst it felt destructive if you were on the receiving end of a brutal Socratic cross-examination, once you accepted the confusion that accompanied rejection of long held beliefs based on falsehood, it was possible to re-search for truth on which to build. Reich (1998) discussing Socratic paradoxes suggests that scholars are divided as to whether Socrates used his 'ignorance' as a pedagogical ruse, to draw others into dialogue, or

whether he was sincere in his description of himself as 'ignorant'. Dr Albert Einstein endorsed Socrates' elenctic method in his comment 'A wise question is half the answer'.

Practical Applications

The examples below are all ones in which ignorance played a part, either in retrospect, or in anxious anticipation. In each, my concern was the learners would respond.

Learners' responses to teachers' ignorance

(1) Jewish Womens Study Group

About 15 years ago a group was set up by two women friends to provide an opportunity for mature Jewish women to study biblical commentary together in a provincial community. The two, one an orthodox Jew and one a progressive Jew, had no training in biblical commentary. There are many editions of bible text available with annotated commentaries. The suggestion was that every participant should come to each study session with an annotated copy of the bible text. We agreed to take to turns in the group to read aloud a few biblical verses, to compare what the various biblical commentators had written, and to add any observations of our own. We had few ground rules, but a couple were (i) we would listen with respect to all contributions, whether we agreed or not (ii) we would consciously refrain from straying from discussion of the text into chatter, at least until the end, when we enjoyed a cup of tea and biscuits.

There was anxiety expressed by an orthodox (male) community leader that unlearned women should not be leading bible study. Undeterred the group continued to meet. As the years passed, it became clear that the group was meeting objectives that had lain unarticulated when the group first formed. It was a weekly social encounter, in which some real learning was taking place. About 20 women were 'on the books' and weekly attendance varied between 8 -12. After meeting for a decade, I asked the group to respond to a brief questionnaire, to inform content for a parish magazine article. As well as asking how, when and why participants heard about and attended the group, I was curious what participants had expected to get from the group, and whether it met their expectations.

Expectations were not always clear. Several responses were '*not sure what my expectations were*' or '*no expectations really*'. Positive expectations included: *insight, meeting like minded people; understanding of biblical law and its place in modern Jewish thinking; to gain further knowledge in Jewish subjects; lively discussion.*

Responses to whether those expectations had been met included: *it is certainly very, very interesting and eye opening; it has been a revelation to see how people open up, unburden themselves and come back for more; people had been able to join in and get something out of it at any level; people gained a wide appreciation of Jewish thought and life; it has been more sociable than anticipated; it was much better than anticipated; nobody looks down on anyone with less knowledge; appreciate the group discussions and different opinions.* They were summed up in the comments '*I have learnt a lot more than I expected*' and '*I learnt a lot from relating to others' viewpoints, perceptions, etc.*'

What struck the two facilitators was that none of the responses referred to the ignorance of the facilitators, nor to their lack of knowledge. The group had been far more concerned with the opportunity they had been offered, to learn from resources and from each other, in an environment in which their own lack of knowledge was respected. For me, this learning has been put to good use in my work at the university.

2. Post Graduate Intellectual Property Law group

When I first prepared to teach a postgraduate group about Patents I was concerned that the students came from diverse discipline backgrounds. Patents are the legal device for registering a property right in an invention that is novel, not obvious and industrially applicable. To understand how patents operate, especially with regard to strategic patenting, requires a grasp of business procedure, market behaviour, of finance, of economics as well as law. I did not relish the challenge, and felt very ignorant in the face of a cohort of scientists, economists, business managers et al. What happened in that introductory patents class has been replicated frequently with subsequent cohorts. The students looked to the teacher to introduce the topic, perhaps via a judicial decision. Then the class was encouraged to take over. Those with legal background were at pains to explain points of legal process to the group; economists gave an economics slant; finance students contributed a financial dimension to the dispute in question; the science and technology students could enlighten everyone in the science or technology of the breakthrough, etc etc. At the end of the class, everyone had learnt more than the teacher could have taught. They all saw that they had something to contribute to the class, and approached further patent classes with increased confidence and enthusiasm.

(3) Computer Science students

The teacher of a group of BSc Computing felt that her students should be introduced to intellectual property concepts. Her own knowledge of IPR was minimal, and she was not confident that she could conduct a class on the subject. As with many areas these days, the internet is a very rich resource of learning materials. It is no longer necessary for the teacher to be the repository of necessary knowledge, nor for the learners to absorb necessary knowledge and retain it en bloc. Instead, the teacher needs to be able to point the learner in the direction of the knowledge, and provide the necessary stimulus to motivate and access it. The learner needs to know where to find the knowledge, and how to apply it in context. Here, a task was agreed in discussion with the Computing students' teacher. Students were reminded that from an early moment in their career, they could be involved with work that resulted in the creation of IPRs, and they might be asked what they knew about IPRs. They were asked 'how would you respond?' and invited to produce a response with 3 references to IPRs appropriate to their own work in computing. As a resource, they were given two web addresses, one of the UK Patent Office (www.patent.gov.uk) and one 'IP in the Research Context' (Christ & Soetendorp 2005) an interactive introduction to IP, published by a spin out of Imperial College, and available on the university intranet.

Feedback from their teacher, who had been nervous about conducting a two hour session on something about which she knew very little said *'I had very little knowledge of IPR. The students responded well to the interactive demo on the website. The visit to the Patent Office website was useful as they tried to get an idea of how to answer the questions. They liked the web site organisation and I noticed they found the information easily'*. The student feedback included *'I would advise an employer to research IPR on the internet and look at the Patent Office site' 'I would suggest researching the web site as we have done, and doing a similar exercise' 'Many companies will be surprised by what is protected and what is not' 'By the way, this was very useful! Thank you'*.(Soetendorp 2005)

(4) Intellectual Property Issues – self managed learning

Intellectual property law is a complex subject, where the volume of international legislative material and judicial decisions grows year on year. At the same time, intellectual property law is at the root of global economic, social, political and humanitarian issues. There is no time to teach intellectual property issues. At the same time it is important that students graduate with an understanding that the issues exist, as a backcloth to the substantive law. In addition, intellectual property is studied in the final year. Final year students need to have something interesting to talk about, alongside excellent grades, when presenting themselves for training contract interviews. What better than to

be able to speak about an intellectual property issue which will invariably have been the subject of recent media comment.

At the beginning of the year, students are informed that 'intellectual property issues' will not be taught, but their issues knowledge will be summatively assessed in the summer examinations. They are invited to form into small groups, 3 - 5 in number, and to choose one issue. The group then researches the issue through the year, dividing the research work between them, crudely: history of the issue, current manifestations of the issue, international comment on the issues, and suggestions for resolving the issue. Before the examinations, groups informally present their findings to the rest of the cohort, where they receive formative feedback. The summer examination contains one question in which all the researched issues are presented. Students can choose one for discussion, and write an essay based on the group research throughout the year.

The students enjoy the task. The majority answer the issues question in the exam, and most score high marks for it. Students have the benefit of being able to present themselves in interviews able to discuss an issue of current legal and socio-political or economic significance, whilst the teacher receives a vibrant update of her knowledge of the issues in question

Learners responses to their own ignorance

If students are to be encouraged to work whilst at university and ever after, as life long learners, on their own ignorance, it would be useful to know what exactly they understand as ignorance, and how they respond to it.

A brief questionnaire was administered to a group of 14 first year LLB students in their induction class, and to 40 students returning to the final year of LLB studies at Bournemouth. Students were asked:

1. What does ignorance mean?
2. Describe a situation before B.U. where you felt ignorant?
3. What if anything were you able to do about it?
4. Describe a situation since coming B.U. that made you feel ignorant?
5. What if anything were you able to do about it?

The Year I students felt ignorance meant:

Not being aware	Refusing to acknowledge something or someone
Not knowing	Being oblivious, of a person or situation
Pretending not to know	Naivety
Not caring	Narrow mindedness
Not interested in a matter which doesn't directly concern you	Failure to be aware or make yourself aware of facts or information
Being unaware of other peoples feelings, religions, cultures	Being stubborn
Lack of effort	

The Final Year students' definitions were similar, with some additional definitions relating to beliefs and opinions

Having an opinion or belief without any real basis for that belief	Deliberately ignoring a person whilst being aware of their presence
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Cutting off your nose despite (sic) your face	Blind to the consequence of your actions
Choosing not to understand	Unknowledgeable
Not showing any interest	Unwilling to look beyond your narrow point of view
Making assumptions about people or issues without fully knowing the facts	Making up for lack of understanding by being rude and sarcastic
Refusing to acknowledge the rights and beliefs of others	Oblivious to information, feelings or environment
Purposefully avoiding an issue	Not taking an interest
Passing judgement without all the facts	Unaware of other peoples opinions, feelings and beliefs

The students' definitions endorsed the perception that ignorance is an undesirable negative quality, which they felt, additionally, manifests itself in antisocial boorishness. When asked to identify a situation in which they felt themselves to be ignorant, the students described experiences where they were uncomfortable or embarrassed by their lack of knowledge or 'unknowing'.

Starting sixth form	Not knowing the news
First few law seminars	Discussion of religions or cultures
Not knowing British culture	Having nothing valid or interesting to offer to the conversation
Hearing about a specific music group, not knowing they existed or were popular	When people talk about things that I don't understand
Peers discussing aspects of law and politics, me nodding along in ignorance	student loans
Not knowing the area	starting a new job not knowing how the company was structured or how it worked
Starting the course	

When describing how they would respond to a situation in which they felt ignorant, they all gave positive examples of things they would expect to do, themselves, to reduce their feelings of ignorance. They did not present expectations that someone else should intervene to remove them from their ignorant state. They accepted resolution of their ignorance as their own responsibility. Although they did not make a direct link in their responses between 'ignorance' and 'learning' they indicated an expectation to make a transition, to change, from a state of discomfort to one of 'happiness and conceptual clarity'.

Read	Talk to people around to learn about it
Talk to friends	Research and understand
Ask questions	Listen to what others are saying, to learn from them
Listen carefully	go online
learn from lectures and seminars	read a newspaper more frequently
get help from my mates	read more and work

try to remember	ask friends
look up things I need to know	try to listen
try to budget and manage my money	read around the subject
ask people sitting next to me	ask members of staff
study information more carefully	

If students are prepared to take ownership of their ignorance in relation to these aspects of university life, and to take responsibility for curing their 'unknowing', could they be encouraged to take more responsibility for their ignorance in respect of curriculum content?

Conclusion

Ignorance is the absence of knowledge. We know we will never overcome our ignorance, because it will always be infinitely greater than any knowledge we might hope to attain. Caldicutt & Williamson (1993) conclude their paper with the observation that 'Ignorance is an odd sort of concept – an elusive, shadowy ground against which knowledge is seen. Once we pin ignorance down, and understand some aspect of the error or irrelevance involved in a particular problem, that particular ignorance ceases to be, and becomes a knowledge.'. Ignorance plays a part in the pedagogic process. Once we 'pin it down' and embrace it, that part can be a positive one in the experience of learners and teachers.

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