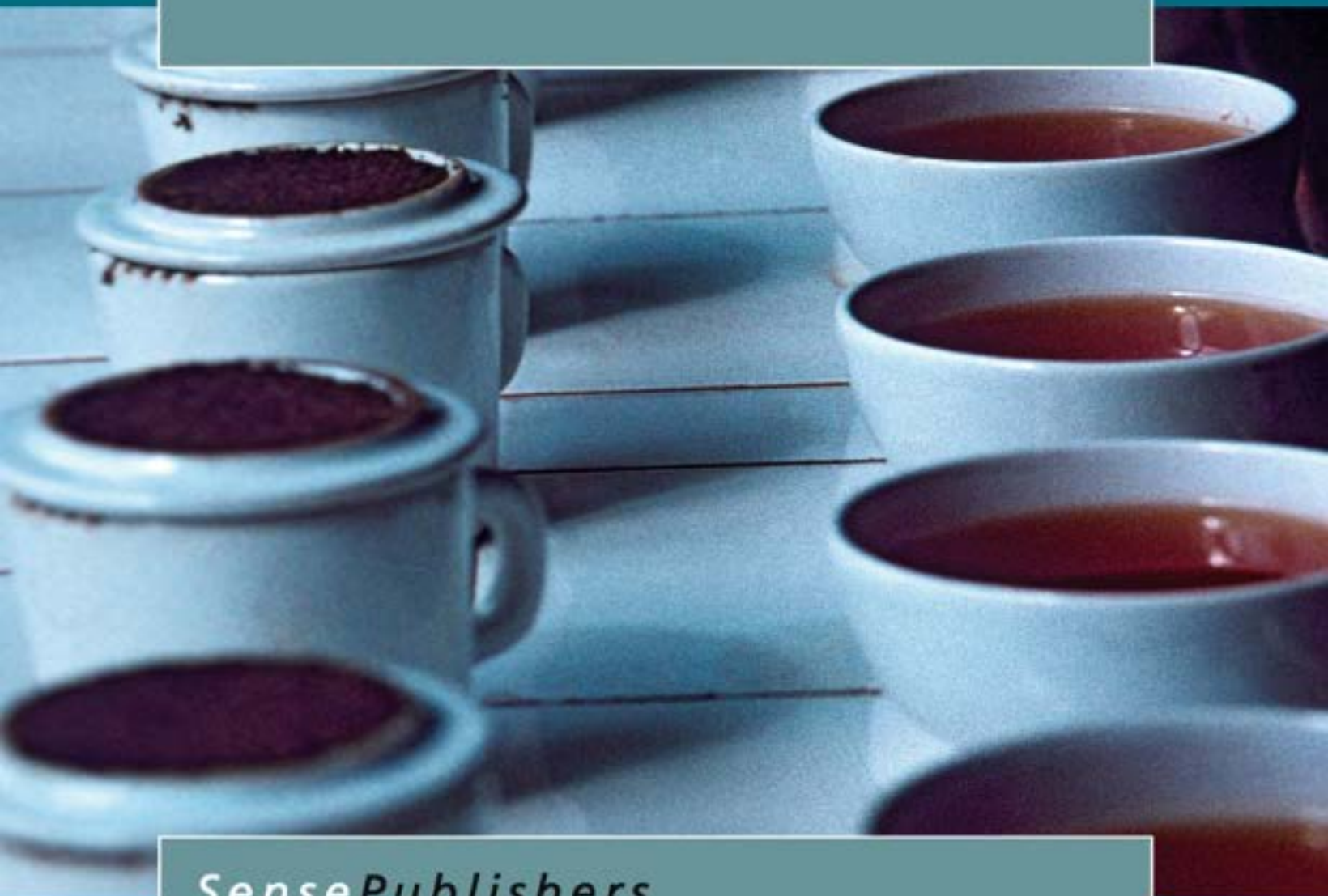


COMPARATIVE AND INTERNATIONAL EDUCATION: A DIVERSITY OF VOICES

Quality in Higher Education

David Andrew Turner



SensePublishers

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COMPARATIVE AND INTERNATIONAL EDUCATION:
A Diversity of Voices
Volume 10

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INTRODUCTION

Quality in higher education is a complex subject, with many ways of interpreting quality, and many theories, models and performance indicators used to try to quantify and evaluate quality. One way of looking at the question of quality, especially of public institutions, is to ask whether they are 'fit for purpose'. That, however, simply moves the question somewhere else, rather than answering it. Does a large organisation like a university have a single purpose? Is the purpose of a university constant over time? And whose purpose is important in assessing quality? The answers to all of these questions is contested, and it is possible, though probably fruitless, to spend a great deal of time defining the purpose of the university. While it is impossible to ignore the overall nature of the institution, and what the funders, politicians, academics and international observers think the purpose(s) of universities is (or are), the success of educational institutions ultimately depends on the impact that they have on a diverse group of individual students. We might start to address the question of quality in higher education, therefore, by looking at the demand from students, which, worldwide, would appear to indicate that higher education is of high quality, and on a continuous upward trend.

In a market economy, it is supposed that individuals will only trade commodities that are of equal value. That is to say, for a well behaved commodity, purchasers will be willing to pay the equilibrium or market price (what it is worth). Thus students will be prepared to pay what it costs for a school or university to produce their education, and they will be prepared to pay that price because employers will be prepared to pay more for educated workers. And the reason that employers will be prepared to pay more, is because educated workers will be more productive, having acquired valuable knowledge and skills in the process of their education.

According to this vision of the world, quality is never a really serious issue, since the price of any product will automatically reflect its quality. A better education will sell, because its higher quality will be recognised by employers, and therefore it will pay off in the long run. Quite simply, in terms of quality, you get what you pay for.

As a purveyor of fine educations, it would not be to my advantage to cut corners and provide lessons of inferior quality, because the employers of my students would soon see that they were not adding as much to elevated levels of productivity as was expected, and consequently the price of the education I provided would drop.

There is any number of reasons why such a simple picture does not apply in the case of education. The simplest is that employers may not expect my students to learn skills and knowledge that directly contribute to their ability to be more

productive; both parties to the transaction, my students and their employers, may be using an education as a signal for something else – an ability to take a long term view of future investments, an ability to get up early in the morning or an ability to sit through endless tedious lectures, for example. For the employer, it may be easier to introduce a requirement for an educational qualification rather than institute a specific evaluation of prospective employees' ability to look to the long term future, while for the student it may be easier to acquire that educational qualification than to demonstrate their characteristics in some other way. In any event, nobody is expecting to see the direct benefits of my teaching showing up in their calculations of profit and loss.

In that circumstance it becomes in my interest to cut a few corners, to reduce the investment in costly inputs, which are not likely to be noticed in terms of the outcome of the educational process. Perhaps I could persuade one of my graduate students to give a few lectures, while I devote myself to something that is more highly valued, such as writing a bid for research funding. Or perhaps I could cut down on the use of expensive laboratory space. Either way, there is an incentive at both the personal and institutional level to reduce costs on inputs, and still maintain a high price for the product.

If students paid for their own education, we might see the emergence of sophisticated consumers who were prepared to shop around for the best deal on education. But in the real world there is no system of higher education where students pay the market price. Governments subsidise higher education, and bursaries, grants scholarships and endowments mean that it is often cheaper to study at the most prestigious institutions. These deviations from a free market system all add to the risk that there are good reasons, from the perspective of the providers, to reduce quality, and this is clearly a matter of concern to government funding bodies and institutions.

This leads to a focus on quality as an institutional concern, as governments and their agents seek to ensure that institutions have appropriate ways of guaranteeing quality, and institutions attempt to secure the best quality from their staff.

This institutional focus pervades most discussion of quality in higher education. Although some discussion differentiates between different divisions within an institution, most discussion focuses on the quality positioning and standing of institutions, as we talk about the Ivy League, the Russell Group, or 'world class universities'. This makes it natural to start from the institutional approach to quality to examine quality in higher education. National and regional accreditation systems, national quality assurance systems and national and international rankings and league tables all start from this assumption, that quality is an institutional matter that can be addressed through the use of appropriate standards and performance indicators.

For that reason, in this book I start from such notions of quality assurance, tracing the historical origins of concerns over quality as agencies outside the academic institutions themselves saw it as part of their concern, and within their sphere of competence, to evaluate the quality of universities.

But this is a very broad brush approach to quality, and not properly adapted to judging the quality of the education provided to individuals, even if it is an appropriate way to judge the quality of institutions. Since the market for higher education is so odd, normal standards of economics barely apply. Education is a public good as much as, and perhaps more than, a private good. All of us derive some benefit from the education of each of us, and an education is not a product like a tool or a skill which one can use to increase one's own earning without providing any benefit for society in general.

Moreover, since the education in elite institutions often carries a lower price tag for the student than that provided by other institutions, we need to think of cost in other terms than merely financial. A bursary may reduce the price of higher education, but the student has to bring something else in terms of price, such as high grades from school or ability on the sports field. In a traditional view of education, what the student brings is 'brains' or an inherited endowment, but in practice grades and performance can be influenced by experience, which is what makes it so attractive for parents to invest in elite high school or secondary education, reverting to the public system for expensive higher education.

In addition, status achieved through education may be a zero sum game, with elite status only being accorded to a minority of each age cohort, in spite of continual expansion of education systems worldwide. In the country of the blind, the one-eyed is king, or perhaps in the country of the ignorant a high school diploma may be enough. However, when everybody has a bachelor's degree, postgraduate studies may be essential.

After examining these various aspects of the rather peculiar economics of education, I come to the conclusion that there are very many perspectives on the quality of higher education; what one person thinks is the ideal process of education, another thinks is unsuitable.

Tyrrell Burgess has suggested that only the individual student can provide coherence in an educational programme (Burgess and Adams, 1986). No amount of curriculum planning and course evaluation can ensure that what is learned makes sense and is integrated into a practical and valuable body of knowledge. Only the individual concerned, and that means the learner, can judge what the value of that experience has been and how it contributes to his or her future potential. For that reason he argues that students own records, records where the values and importance attached to achievements recorded are set by the student himself or herself, are the only appropriate standards for assessing educational performance.

In a similar vein, I argue that judgements of the quality of higher education can only be made by the individual who is experiencing or has experienced the process first hand. This is a complex issue. A fine education for one individual will be wasted on another. We cannot expect that a young person will learn anything of value if they are in an institution that they find threatening, either physically or emotionally. But at the same time this must not be used as an excuse for segregation, and assigning some groups of students to inferior institutions simply because they would be uncomfortable at an elite institution. Education needs to be demanding, and it also needs to be fair. But in the end, only the individual will be

able to judge whether they achieved what they hoped for from their higher education.

This is an emotionally charged area, because there is only one chance for each individual to get it right. A high quality experience of higher education can establish a young person on a career path from which they will benefit throughout life: a poor quality experience can be damaging not only to the pocket, but to self-esteem and engagement with society, and can have effects into future generations. But this is not a process that can be addressed by a one-size-fits-all procedure. In the UK politicians and bureaucrats are much exercised by the question of whether the quality of learning required to acquire a degree in music is the same as the quality of learning demanded by a degree in engineering. Only people who were prepared to consider whether a symphony weighed as much as a suspension bridge could take such a question seriously. The important questions in education are all about individuals, and whether their experience is appropriate or beneficial to them.

For this reason I advocate a process of ‘positive benchmarking’, of placing the appropriate tools to compare and evaluate possibilities in the hands of the individuals concerned and helping them to choose the quality of education that is right for them.

It is perhaps worth noting in passing that we are seeing the most extraordinary change in the meaning of a word here. ‘Quality’ means a property or characteristic, and something or somebody may have many qualities. But we are seeing a transformation of the word to mean a quantity or level of excellence. What we need is a recognition of the original meaning of the word and an opportunity for each individual to identify the quality of the education that is right for them, whether that is demanding, useful, achievable or pleasurable. In describing positive benchmarking I suggest that each individual should be able to choose their own criteria for evaluating the educational opportunities that they face, and that data should be made available in such a way as to facilitate that evaluation.

Suggesting that an individual should be provided with an education that is adapted to him or her should not be confused with a simplistic notion of customer satisfaction, or facile surveys of what went well or what went badly. Such satisfaction surveys are methodologically suspect because they again invite aggregation of results up to institutional level, when it is not at all clear that there is equivalence of standards across individuals. More importantly, individuals have no very strong reason to tell the truth, and fairly strong reasons to lie. I am unlikely to tell you that, from an academic point of view, my three years as an undergraduate student were completely wasted because it took me that long to work out which fork to eat soup with. Quite apart from being a memory of social embarrassment that I am trying to forget, it may lower my value as an employee if I admit to it, or worse still may lower the standing of the institution that awarded me my qualifications. It ought to be fairly plain to anybody that such an institutional approach to student satisfaction invites a conspiracy on the part of all involved not to speak badly of the status of an institution which, in part, reflects on them.

The personal evaluation of an education and an educational setting as right for the individual loses its value if it loses that privacy and connection with the

individual. It is also a relative judgement. I may come to the conclusion in the end that my educational experience was pretty dismal, but would I wish it to have been different? Would I really have been better off having a better educational experience, if I retained the idea that it might have been much better somewhere else? These are imponderables about which there can never be precise answers. The idea that the quality of a library can be reduced to a number between 1 and 5, or that an educational establishment can be placed 309th in a world ranking is so absurd that it would not demand a moment's further thought, were it not for the fact that you can pick up a newspaper, or surf the Internet, and find that is precisely what is being done, in all apparent seriousness.

This book is an attempt to move the discussion back to the quality of higher education – its quality as a public good, its quality as a mechanism for personal self-realisation, and its quality as a critical tradition of self-examination – and away from a spurious emphasis on the quantity of education, not merely in terms of years, but in terms of grades and credits and ratings.

If acquiring knowledge were easy, it would not be necessary to have universities at all. Simplistic answers to complex questions can be found on any street corner, on any website, or in the popular media. Nowhere is that truer than in relation to the quality of higher education.

In order to examine the issues that relate to quality in higher education, I start, in the next chapter, with a brief examination of the history of universities. This looks back to a time when the main purpose of a university was to protect individual scholars from the pressures to conform, and the possible retribution that would flow from the expression of novel, or heretical, opinions. The quality of medieval universities still colours our discussion of some aspects of higher education, as in the case of an unthinking reference to 'academic freedom' whenever any reform is proposed. We cannot escape our history as long as people believe that it is still relevant, whether that belief is justified or not.

In Chapter 3 I follow that history into the nineteenth and twentieth centuries, and the expansion and diversification of universities. Increased student numbers, the inclusion of new areas of study, and increased funding from government and other benefactors, all brought challenges, and changed the way that quality in higher education was conceived.

Ironically, for an institution that was so radical and innovative in its beginnings, universities came late to the prescriptive models of scientific management and the quantification of performance indicators. However, once having moved in that direction, higher education seems to have taken the approach fully to heart and embraced the idea that quality could be quantified into a simple index. Or perhaps it would be better to say that politicians, confronted with institutions as diverse and complex as universities, sought to impose performance indicators and accountability on universities as the only way of ensuring that a growing investment was employed effectively. In Chapter 4 I look at performance indicators and their use, and in Chapters 5 and 6 I look at the most recent embodiment of such quantitative approaches to quality in higher education, rankings and league tables, at the national and international levels respectively.

In Chapter 7 I make a slight diversion into the field of the economics of education. Education is not just another product, like toothpaste or corn flakes, however much politicians may like to speak of students as ‘consumers’. Education is a public good, which means that it should, in principle, be impossible to charge a price for it. Anybody who really thirsts for knowledge could devote themselves to study in a public library (or, latterly, on the Internet) where the whole stock of human knowledge is freely available. Self-study provides an alternative to formal education which should prevent educational institutions from charging extortionate fees. However, as we know, students are willing to pay to study, and their value as employees does increase as a result of completing a cycle of education. This failure, among many, of education to behave as it ‘should’ is examined in Chapter 7. This examination serves to underline that education does not behave like other commodities, for all the widespread use of markets and commodification as metaphors for explaining educational performance. Although the behaviour of markets for luxury cars and public parks have some instructive parallels with education, higher education is in a class of its own, and is not exactly equivalent to anything else that economists deal with.

This brings me back, in Chapter 8, to the intensely personal nature of higher education, and the individual student experience. And even that does not really break the question down to the appropriate level, as a single student will have many and varied experiences of higher education in the course of a programme of study. A student who realises what it is that they wish to do with their life, and leaves university in order to set off in a new direction and to achieve a new ambition, may regard the process as having been very positive, which is hardly captured by the terms ‘drop-out’ and ‘wastage’ that are officially applied. An understanding of the nuanced and contested nature of the evaluations that individual students make is important in coming to an overall conclusion as to the quality of higher education.

Although the line of argument to this point, emphasising the difficulties of developing a global measure of the quality of education, may point towards the futility of comparing different experiences and institutions, I do not wish to conclude that we should abandon the effort. Taking the various lessons from the account so far, and developing one of the analytic tools that I employed to examine national and international league tables, in Chapter 9 I propose a process that I describe as ‘positive benchmarking’. Comparing different institutions, and seeking to attend the best, or to raise the standards of those with shortcomings, is a perfectly legitimate desire. Politicians will wish to ensure that money is not simply wasted in poor institutions, and students will wish to attend the university which is best for them. While it may be impossible to reach a sensible conclusion as to the overall, unambiguous quality of a university, or to be sure which are the world class universities, judgements of quality that affect personal decisions will always be with us. In proposing positive benchmarking, I simply wish to ensure that the choices that are forced upon us are made in the most constructive way possible.

These conclusions are finally drawn together in Chapter 10.

ORIGINS

The purpose of this book is to examine quality in higher education. But to examine quality implies having standards that can be applied to judge quality. One of the themes that will emerge in the process of studying the quality of higher education is that what counts as quality depends to a very large extent on what the supposed purpose of higher education is. And the purposes and functions of higher education have changed a great deal over time.

In fact, the meaning of 'higher education' has changed so much over centuries that the boundaries of that concept have become unclear. 'Higher education' is synonymous with what happens in universities, but even the word 'university' has proved to be elastic in its content. When we speak now of 'universities' it is common to imply a range of institutions, only some of which are universities in the traditional sense. Indeed, some official documents will draw attention to this fact by stating that the term 'university' is taken to include polytechnics, community colleges, colleges where postgraduate professional education is provided, grandes écoles, Fachhochschulen, and so on. This acknowledges that from the middle of the nineteenth century, governments have funded a range of institutions of higher learning and/or research that stand alongside the traditional universities and are on an equal footing with them, in terms of funding, status, importance to the economy, and so on. That inclusive definition of 'university' now prevails, but it is as well to remember that, as a consequence, when we talk of universities the bulk of activity that is described, whether that is in terms of student numbers, quantity of funding, or number of institutions, has its roots in activities that were very far from the traditional university. Even if we take a function as central to the modern notion of the university as the teaching of undergraduate students, this is a relatively new addition to the repertoire of universities.

Having said that, the word 'university' carries immense authority and shapes the debates about higher education. Even though traditional universities may only form a tiny percentage of the national effort in higher education, as an idea or an ideal they exert immense influence over the rest of higher education. It is therefore important to take into account those ancient traditions of higher education, while acknowledging that the activities and standards applied by modern universities are very different from those that formed the initial purposes of the university.

This is not to say, as some traditionalists might argue, that the pure traditions of the university have been diluted by broadening the concept to include polytechnics, Fachhochschulen, land grant colleges, colleges of advanced technology and community colleges, to the detriment of the original ideal of the university. The traditional, medieval university has also changed beyond all recognition, changing in part as a result of internal imperatives, but also changing to respond to external social pressures. The university has been one of the most successful institutions of

the modern period, not simply in terms of survival, but also by informing and providing successful models for social innovation. But in that process what has counted as quality has shifted dramatically. Focusing on changes that have taken place in the way that quality in higher education is understood should serve as a useful counterbalance to prevent the too ready acceptance of contemporary standards as the only ones that are applicable.

One further complication is that the university tradition is normally traced back through its European precedents in Bologna, Paris, Oxford and Cambridge. There are, of course, alternative traditions which trace the origins of the university to Al-Azhar in Cairo, Nalanda in India or the Han Dynasty in China. Some of these models may be more appropriate for postmodern society than the European models, being based in broad societal concerns. The European models, in contrast, started from relatively narrow, religious concerns, were transformed by their encounter with post-Renaissance science and modernity, and only latterly came to engage with wider social purposes. European institutions of higher learning have, thus, gone the long way round to arrive at their present notions of social engagement. Having said that, it is largely the European model, linked with notions of modern science and technology, and infused with modernity, that has been re-exported to the world, and substantially forms the basis of what a 'world class university' is in the twenty first century.

More or less a thousand years ago, when universities were first established, it made very little sense to ask questions about the quality of research or teaching. Who was in any position to judge quality? If the function of creating knowledge for society was the sole province of the universities, the scholars working in those institutions were expected to be at the cutting edge of their field of study, and nobody else would know enough to critique them from outside the university.

And here we have another example of how easy it is to confound the issues of higher education quality by assuming that the terms that we apply today can easily be transferred to another context or another time. Our modern concept of 'research' is shaped, to a very great extent, by the emergence of science as a distinct discipline in the seventeenth and eighteenth centuries. Research is the search for truth, typically by a process of interrogating nature through experimentation. The medieval university, in contrast, housed no such activities. Truth and understanding were to be sought through the analysis and interpretation of texts, particularly ancient texts, a practice that may have more in common with the scholarship of the post-modern university than with the scientific activity of the modern university.

Similarly, 'teaching' was not a core activity of the medieval university. Of course there were readings, or 'lectures', but the primary function of these was to allow the scholars to write down the text. In the absence of printing, copying and annotating his own copy of the text was one of the primary foundations of scholarship. Scholarship was thus the key activity of the medieval university, in the sense that reading, writing, and knowing the texts that were available was the main activity within the university. Thus 'teaching' and 'research', insofar as they can be identified in that activity of scholarship, were intimately linked in the medieval university, because they were the same activity. That ought not persuade us that

teaching and research are necessarily linked, or even should be linked, in the university of the twenty first century, whether that is seen as a modern or post-modern institution.

So, from the very beginning, the activities of the university were arcane and inward looking. There were no external bodies appropriately placed to judge the quality of scholarship that took place in the universities. The civil authorities may certainly have taken a view about the drinking and riotous behaviour that took place in universities even then, but they had relatively little to say about the activities of scholars when sober. However, there were a number of other important considerations which meant that university scholars could, for the most part, be relied upon to be independent in their scholarship.

The origin of the word ‘university’, or ‘universitas’, meaning ‘all of you’, derived from the thirteenth century papal provision that the body of scholars of the universities of Bologna and Oxford could make collective representation to the papal court. This meant that the university could have an idea, present a position, provide an analysis or make a case collectively, and that individual members of the university could not be held to account for the opinions expressed, and most specifically could not be penalised for holding an unpopular or heretical view. This creation, for the first time, of a fictional, notional or ‘legal’ person, made up of a collective, provided a protection of individuals which was a valuable adjunct to the idea of Socratic dialogue and progress through criticism and error elimination.

To those of us who have become familiar with the idea, after more than eight hundred years of usage, and the transformation of this idea into the limited company, the corporation and the anonymous society, the idea that a collective body can be given legal rights in order to promote risk taking and investment in innovative ideas, while individuals are protected from criticism or financial risk, seems commonplace. But in the thirteenth century it was a truly revolutionary idea, and it is perhaps wise to reflect for a moment on how revolutionary. Prior to the establishment of the medieval university, individuals made statements, owned property, or incurred debts. There was, in that sense, no such thing as society, because there was no sense that collectives of individuals could have any of the functions that properly belonged to individuals. And this is an important part of the way in which the university has changed the world we live in. Had the university not established the principle of the collective as a legal person we would live in a world without General Motors or McDonalds, without Boeing or HSBC. Even the idea of ‘the state’ as an agent in its own right, owes a great deal to this sense that a collective can have purposes and wishes that are analogues of those of individuals. And whether one thinks that would be a preferable parallel universe or not, it would certainly be very different. The university provided anonymity and protection to the individuals within it, and made it possible for them to make daring, risky or socially provocative speculations.

The fact that the university was such an organisation in its original constitution is not to be taken as an argument that it must always remain so. It may be that by spawning the research and development laboratory of Bell Telephones, and making possible the private investment into electronic research that has transformed

society in the twenty first century, universities have served their purpose, and passed the baton on to other bodies to advance the pursuit of truth. Ironically, at a time when the public limited company appears to enjoy almost unrestricted freedom, the university in most countries faces increased control and greater restriction of its use of public assets. This should not produce an unreflective call to reinstate the values of the past, or a nostalgic harking back to a golden age of academic freedom. What is needed is a critical examination of what the functions of a university can be, and should be, in contemporary society.

The original concept of the university gave protection to the individual scholar in the face of the power of the church, which was in many ways the most important arbiter of truth in medieval times.

At the same time, members of the university were clerics, which meant that they came within the jurisdiction of clerical courts and canon law, and not within the power of lay courts and the law of the diverse lands of the medieval period. Thus while the concept of the university provided protection of the scholar from the powers spiritual, the church herself provided protection from the powers temporal. This persisted in vestigial form in the medieval universities in England, in the sense that, well into the twentieth century, they maintained their own 'police force' to ensure that students were disciplined appropriately, and the civil police force would enter university premises only at the invitation of the university authorities.

I was a student at the end of the boisterous 1960s and remember the case of a friend who was imprisoned for excessive zeal at a demonstration, and the university did everything it could to ensure that he could continue his studies, on the grounds that he could not be punished twice for the same offence, once by the civil courts and again by the university. This separation of powers was part of the university tradition, although a clear recognition appears to be disappearing in the expanded higher education sectors. I work on a campus where there is frequently a police presence, because the campus houses a centre for the professional development of police officers. While this seems perfectly sensible as the police, like other walks of life, seek to develop professionalism, and the presence is in no way linked to the enforcement of the law on campus, I think that it would have been difficult to imagine such a situation even fifty years ago. However, the loss of this sense of history as a protection against arbitrary civil authority was most clearly marked in a memorandum that I saw from a senior manager in another institution, advising students that disorderly parking of cars near the campus was annoying people who lived in the vicinity, and that if students received parking tickets they would be punished by the university. Clearly that senior manager had no sense of the centuries long tradition that he was part of.

The relationship between universities and society has, as is clear from this, changed considerably, and continues to change. The concept of double jeopardy, which is currently under threat in a number of jurisdictions, is not exactly a gift from the universities to society, but it is deeply tied up with the establishment of the medieval universities. That cannot mean, however, that the arrangements that were appropriate in the twelfth century can be maintained unaltered into the twenty first.

Lastly, and importantly, the scholar was protected from pressures from within by the need to embrace poverty. This was only partly a formal matter, that most clerics took a vow of poverty, and had little in the way of personal property. It was also a fact of life, books being rare and expensive, and scholarship being poorly rewarded, that a life spent in the pursuit of learning, as opposed, for example, to a life spent in seeking advancement in the politics of the church, was in practice a life of poverty, and there was little of material consideration to sway the reasoning of the true scholar. Chaucer's depiction of a scholar, the clerk of Oxenford, is of a poor man who invested his entire wealth in the ownership of half a dozen books to which he devoted himself in study.

The quality of the university could therefore safely be left in the hands of scholars, because the judgement of scholars was the only practical measure of the worth of an idea or argument, while neither religious orthodoxy, political expediency nor human avarice could be thought to carry an undue weight with the scholar. The medieval university was therefore well placed to protect the scholar in the important role of critic of society, and to see that the repercussions of 'speaking truth to power', if not comfortable, were at least not physically harmful.

By the end of the twentieth century, and to an even greater extent in the twenty first century, the situation had radically changed. In the first place, the university is no longer unique or primary in the creation and evaluation of knowledge. The emergence of the knowledge economy, by definition, means that knowledge is more or less freely convertible into money. Whether knowledge is employed in books or films, products or services, there are other standards by which knowledge can be judged than the opinion of scholars. Is it useful? Is it practicable? Is it scaleable? Is it tradeable?

At the same time, other institutions have been provided with protection to encourage them to take the risks necessary in knowledge generation. Some of these, like the limited company, are developments of the idea of the collective originally defined for the university. But others, such as the notions of copyright and the patent, are designed to provide economic protection for the originator of ideas, rather than a more negative protection. Indeed, the ideas of copyright and patents are integral to the notion of the knowledge economy, because they are designed to make it possible for the original thinker in any sphere to have exclusive rights to make a profit out of their invention for a period of time. The reasoning would appear to be that, in the absence of such an economic incentive, there would be no originality in the world. Creative people are therefore given encouragement to make their ideas public. Similarly, the institutions that protect individuals from arbitrary force have also developed, not only in legal frameworks, but also through other social institutions, such as protection of the freedom of the press.

The consequence of all these developments is that other institutions are well placed to take on social functions that once only the university could discharge. Not only scholars can speak truth to power, and in many cases they may not be as effective as muck-raking journalists, a fact that is borne sad tribute to by the comparative rates of assassinations among journalists and scholars. While I would

not like to see the murder of scholars promoted as a field of political activity, it should be noted that the university has lost its unique, and perhaps even its primary, role as generator and arbiter of new knowledge.

At the same time, the fact that knowledge has become convertible into political power and economic goods means that scholars have lost some of their independence from external influence. If the results of research may be worth millions to a pharmaceutical company or an industrial conglomerate, then the decision to publish or not publish those results can be subject to pressure, and scholars are not immune from those influences or above suspicion. The fact that the university has become the site of huge investments, first on the part of government, in schools of military and veterinary science, and then on the part of private enterprise, has raised the question of the need for external regulation of the activities of scholars. At its clearest, or most forceful, in the case of the Manhattan Project, the moral dilemmas are repeated in different ways and at different levels throughout the academic world. The development of nuclear weapons, and one hundred and one other inventions, are much too important to be left to scholars alone. Particularly where democratic forms of government have developed, scholars have lost their legitimacy as the sole arbiters of what should, and should not, be known or studied.

Scholars can become wealthy, through the application of their knowledge in industrial processes, or politically powerful through the application of their analysis in affairs of state. Less directly, scholars can become rich and exert public influence, by becoming noted popularisers of academic ideas, or by expressing the zeitgeist and the mood of the times to the general populace in terms that they are happy to understand. Religious orthodoxy may not be the power that it once was, whether because the church no longer thinks it acceptable to burn heretics, or because in a multicultural and/or secular world no one religion has a monopoly of truth, but exposure to every other kind of pressure, political and financial, has increased, as universities have generated more and more knowledge that society has found useful and that public and private entrepreneurs have thought it worth paying for.

This quick run through of the issues surrounding quality evaluation has necessarily been partial, but it points to some of the key issues in the evaluation of quality in higher education. Those who make a judgement must be in a position to do so. This means that they must have some privileged access to information about a relevant criterion used in the evaluation of knowledge. Once, only scholars were in such a position. But today a businessman or market analyst might have such information in relation to the market value of knowledge. Of course, this raises the question of whether market value is an appropriate criterion for the evaluation of knowledge, as opposed to recognition by one's peers in the world of scholars, but that is a debate of considerable interest that needs to be explored at length.

Moreover, in order to have the trust of a wider public, or in more general terms 'legitimacy', those who make the judgements must be seen to be free of undue political or financial interest or influence. A quality rating or ranking should not be bought or sold, or capable of blatant political manipulation.

The question of who should be making the judgements of quality is closely linked to the question of selecting appropriate criteria for that evaluation. As noted here, scholars may value the collective judgement of their peers, while market analysts might value the underwriting of scholarship with money. This brings us to the question of performance indicators, or objective measures which can be used in the evaluation of quality. It should be noted, however, that while a performance indicator might be clearly and unambiguously defined, as, for example, in the case of research grants attracted by a research group, that does not guarantee that the meaning of the indicator is undisputed, nor that it is incapable of political manipulation in order to advance sectional interests.

Thus a department of medical science might attract much more research funding than a department of anthropology, but that might not indicate that the research of the medical science department was necessarily of a higher quality. It might simply reflect the fact that the prospect of a cure for cancer (which we might suppose to be a more likely outcome of research in medical science than in anthropology) was seen as a more important civic opportunity by a government department, or as a better investment opportunity by a drug company.

Moreover, the medical science department might be able to manipulate increased investment in their field, for example by arguing to government that any pound spent would attract matched funding from private sources.

An examination of any system of quality assessment in higher education, therefore, needs to look at who is doing the evaluation, how they are selected and what interests they serve. It will also need to look at performance indicators and criteria used in arriving at any judgement, bearing in mind that no choice is neutral. Any criterion which is applied, and which (and this is most likely to be the case) has financial or political implications for future action, will have an influence in making some lines of development more likely than others.

Finally, it will be necessary to look at other players who may have a legitimate concern over quality, and whether they will be able to form a judgement that suits their purposes adequately. Most obviously, prospective students have a key interest in identifying aspects of quality in higher education which are, or may be, of relatively little concern to scholars, governments or business. But although prospective students have a very different perspective on the quality of higher education, and the criteria they believe appropriate for its evaluation, they also have a legitimate claim on high quality information which can inform a choice which is both highly personal to them and involves a substantial investment on their part. Any formal system of quality evaluation should be capable of providing information that can inform that choice.

Ultimately, debates about the quality of higher education are debates about the relationship between universities and society, or the desirable relationship between them. Is teaching conducted for the benefit of the individual citizen, or is it for the benefit of society at large? Can the value of knowledge generation be assessed in terms of economic growth? Is there some research that should be pursued for its own sake, irrespective of any economic benefit? In the pursuit of these activities, how far should universities be able to draw upon public finances? And to what

extent should the universities be held to account for those public finances? Everybody who has a stake in the conduct of higher education, and in today's society that means everyone, will have a view on these questions, and those views will shape their approach to quality in higher education, what it is, and how to achieve it.

Holmes (1979) drew upon the parallels between the *Glass Bead Game*, described in the novel by Hermann Hesse (1975). The allusion is quite clear, and probably intended by Hesse himself, that the university preserves a special place apart for those who are privileged to be part of the elite order of academics.

Holmes argued that the university rested upon a traditional, but normally unspoken, contract. The university was free and independent to be the critic of society, but in return academics had lost their freedom to take part in political action. They should not, in Holmes' view, engage in political, that is party political, action on their own account, nor should they mobilise their students to act in a particular partisan way. In this way, the university was to be an ivory tower, but it was created in this way in order to be the friend of the open societies in which the university best flourished. Universities were thus free to pursue knowledge for its own sake, so long as they did not seek to dictate how that knowledge could or should be used in society.

In part, that in turn rested upon a vow of poverty; the independence of the university to be the critic of society was threatened by two things. Since 1945 universities across the world had become increasingly dependent upon government money, and Holmes clearly foresaw that this could not continue without governments wishing to use their economic muscle in the institutions to silence the most vocal expressions of universities as critics of society. The second major threat was, in his view, an increasing tendency for academics to want to use their position of safety on the campus as a base for political action and to motivate their students to political action, especially in 1968 and afterwards.

These themes are developed more fully in Hesse's novel, although exactly what the novel ultimately prescribes as an appropriate relationship between universities and the rest of society is not absolutely clear.

The eponymous glass bead game is not described in detail, but it is alluded to in terms that suggest that it involves a recognition of the cross-cutting symmetries between different fields of study. I suppose each reader will develop their own picture of what the game signifies. I myself call to mind the way in which similar mathematical patterns can be found in different spheres, so that the same formulae can be used to describe the discharge of an electric capacitor, or the leaking of air from a tyre. The same statistical models can be applied to the distribution of intelligence in a population or to life expectancy or the movement of stock markets. While Hesse clearly does not intend that we should think of the glass bead game as mathematical, this sense that our understanding in one field is echoed in another is clearly central to the idea that he develops.

On the other hand, Hesse is clearly anxious to avoid giving the impression that any kind of eclectic juxtaposition of ideas is of value. He makes reference to the 'Age of Fueilleton', which is clearly a reference to our own time. In that despised

past (from the perspective of the novel) it was common to hang on the words of a footballer or actor on social or political issues, simply because they were famous and not because they had any expertise in the matter under discussion. Hesse represents this as odd, as indeed it is, and contrasts it with the properly grounded drawing of links by expert players of the glass bead game. It is worth reflecting that since the novel was written (1943), this tendency has become even more marked.

The protagonist in *The Glass Bead Game* is Joseph Knecht, who, in this imagined future, joins the monastic order of those devoted to advancing scholarship for its own sake. Hesse makes it clear that 'monastic' does not carry any overtones of social isolation or celibacy, but rather refers to a scholarly attitude which eschews wealth, and attaches the greatest importance to intellectual pursuits, so that long-term relationships outside the order are given up as not important, rather than banned by some arbitrary rule.

However, it is not at all clear that Hesse is holding up Knecht as a model for future scholarship. In the first place it is clear that since the glass bead game has been established scholars have become excellent critics and cataloguers, but they have no creative or original capabilities. Thus, in the novel, scholars of music have reached exalted heights of musicological understanding, but they focus their attention on the musical works that are familiar to us today. There is an ambiguity here which is sharply marked, between the dismissal of the present age as shallow and sensational, and, at the same time, the regime that has replaced it, which is sterile and uncreative. It is not at all clear whether we are supposed to look on Knecht's milieu as an advance on our own, or not.

At the same time, Knecht's personal development focuses upon his growing recognition that the order of which he is a member, by being cut off from the outside, political, industrial and military world is ultimately pointless. It is cut off from time, and devoted to the study of eternal verities, but at the same time, by cutting itself off from the drive of everyday life it had lost the mainspring that drives scholars forward to development. Having reached the peak of his chosen career, as an ascetic and scholar, Knecht wishes to turn his back on all of his achievements to become a teacher, to engage with, not so much the 'real' world, as the timely world with concrete and potent demands.

These two thoughts, the exchange of critical insight for creativity, and of timeless truth for pragmatic understanding, may be linked, but that is not made explicit. In this sense, Hesse poses a question rather than proposing an answer. The quality of scholarship needs to be protected from the pressures of everyday life, and means need to be provided that it should not be subverted by scholars seeking individual advancement, political power or wealth. But on the other hand, scholarship cut off from everyday concerns can quickly stagnate, descend into scholasticism, and be of no value to anybody, not even the scholars themselves.

In fact, in the novel, Knecht dies of a heart attack after plunging into a freezing cold lake when he is on the verge of his new career as a private tutor of an adolescent boy, so we never discover whether his vision of the future is better than what he leaves behind, or whether he is ultimately doomed to find the need to

move on in anything that he does. Holmes comments: “Knecht’s sorry end in an ice-cold lake indeed should persuade [scholars] not to withdraw from the bustle of the world to study in splendid and monastic isolation” (Holmes, 1979: 9) However, it is not at all clear whether the lesson to be drawn from the novel is that it is the monastic isolation that is fatal, or the attempt to reintegrate oneself back into the world.

The narrative device which is used to explore this tension between the world of scholarship and the world of politics is the developing relationship between Knecht and his one-time school fellow, Plinio Designori. Although enjoying some of the benefits of the education provided for young scholars, Designori goes back into the world to take a leading role in business and politics. He is portrayed as knowing and worldly, in contrast with Knecht’s naivety and detachment. At a material level, the world of the scholar depends ultimately upon the understanding of the political world to provide the wherewithal to support the development of knowledge for its own sake. An understanding between the two sides is therefore essential to the development of a stable academic community.

At the same time, at a personal level, Hesse does not attempt to suggest that one way of life or the other is superior. Indeed, Knecht and Designori are linked, more than anything, by a reciprocal jealousy, each being able to see the advantages of the other’s lifestyle more clearly than their own.

The Glass Bead Game, therefore, poses quite succinctly the problems that beset us when we seek to develop a quality system of higher education. Scholars need to be humble and disciplined, but disciplined by a search for better scholarship, not dragooned by some higher authority. At the same time they need the stimulus of the hurly-burly of the materialistic world as a goad to relevant activity. On the other hand, the very fact that the scholar can only imperfectly understand the workings of political power and wealth may make those rewards even more attractive to scholars than they are to men and women of the world.

For their part, our political masters can never fully understand what scholarship is, or why scholars pursue it. It can never be completely reduced to the useful, and therefore there is a considerable risk that the economic world will see investment in higher learning as useless. We need to make sure that there is an understanding on the part of our paymasters that higher learning does contribute something of value, even if not of immediate and easily calculated value, to the society in which it is hosted.

The Glass Bead Game dramatises the issues that lie at the heart of the relationship between higher education and society. On the one hand, if the relationship is too close, the academics run the risk that society will apply controls, and will attempt to manage scholarship, for the good of society, even though, as outsiders, they can never really understand what is at the heart of good scholarship. At the same time, an excessively close relationship between academics and the everyday life of commerce and politics can present temptations to scholars who, though experts in their own field, may be tempted into speculations where they are no more than intelligent lay persons, and perhaps more naïve than those who have

spent their lives developing more worldly skills. Those are the dangers of excessive closeness, and they argue that the university should be, at least to a considerable extent, an ivory tower where scholarship can be pursued for its own sake.

On the other hand, excessive estrangement or aloofness from society carries its own risks. So long as universities depend upon resources provided by society at large, scholars depend upon the good will of the body politic, and cannot afford to be seen to pursue their own interests without any concern for the good of others. Academics need to be concerned, not only with 'real' quality, the judgements of those insiders who they know and respect, but also with apparent quality as understood by politicians and the broader society. Isolation will lead to increasing tendencies to follow scholasticism rather than scholarship on the side of scholars, and even if that danger is avoided, may lead to its appearance from the perspective of outsiders, which is just as dangerous.

Universities therefore need to develop a stance which is neither too closely connected to society and its everyday fads and fancies, nor too distant and disconnected from the concerns of everyday life. What counts as quality in higher education will be shaped by the exact nature of that relationship, and how it changes over time. It will also vary from place to place as the compact between scholarship and society develops. A proper understanding of this relationship cannot be developed by a reliance on slogans, such as 'academic freedom', or 'world class university'. A proper understanding of quality in higher education needs to take into account the changing relationships between universities and their societies, and the many roles that universities can and should play, and indeed have played, in supporting the development of those societies.

It is the teasing out the strength of these connections between the academic world and the rest of society which lies at the heart of judgments about quality in higher education, in research and in teaching. And, like Hesse, I suspect that there is no ultimate answer, but a continuing process of creating quality through the relationship between universities, their students and their society.

The university is a focus for competing targets and performance indicators, some sought for their own sake, others because they are a means to another end. Thus, money is sometimes just money, but in the form of research grants or consultancy income, it may be sought as an indicator of status or the respect of one's peers. It may even be seen as a way of buying academic freedom. On the other hand, the respect of one's peers, or the good opinion of students may be sought as worthy ends in themselves, or they may be seen as ways of increasing income, by increasing the likelihood of securing research grants, or by increasing student recruitment. Nothing is definitely fixed as having only one use, purpose or definition, and different stakeholders will value different outcomes. Not only is this contested ground in terms of the views of those who take part, it is also shifting ground, in the sense that changes in the political scene or in funding mechanisms can change the importance attached to any specific outcome.

In this sense higher education is a mirror held up to life. No scholar can afford to be completely aloof from the worlds of economics and politics, or neglect the impact that his or her work has in the world beyond the ivory tower.

CHAPTER 2

However, too eager a pursuit of popularity, financial benefit or power is bound to have a negative impact on the quality of scholarship and / or the perception of quality. It is in the subtle playing out of these competing forces that the quality of higher education is defined. Knecht was unable to resolve the difficulty satisfactorily, and neither may we.

DIVERSIFICATION

The origins of the university ensured that independence was provided for scholars, and that, in effect, scholars were insulated from external influence. Essentially this meant that scholars, and only scholars, were in a position to judge whether the work of the university was of high quality or not. Some of that attitude can still be seen today. As we move towards greater concern with ensuring quality that is transparent and assured by quality committees and review panels, academics can still occasionally be heard to complain that in their specialist area such-and-such a method is accepted practice, and that they do not admit the right of any non-specialist to comment on its appropriateness.

This ‘academic freedom’ was originally secured at the price of placing scholars under ecclesiastical jurisdiction rather than civil jurisdiction. As a result, the church had a particular interest in the development of the university, and the university became, effectively, a monastic organisation. This approach still persists in the ancient universities of Oxford and Cambridge, architecturally at least if no longer educationally, where life in the university colleges centres on the twin foci of communal living – dining and prayer. The medieval university, therefore, became a vocational school for the clergy. Those most adept at the examination and evaluation of doctrinal issues became scholars, either remaining in the university or seeking isolation and their own company, while those who were less successful, and therefore less dangerous, became the public face of the church.

Today, higher education, and, insofar as that is synonymous with universities, universities themselves have come to be seen as an integral part of the modern economy. Most governments set expected levels of participation as part of their programmes of national investment. The UK government is typical in this, setting a goal of 50 per cent of each age cohort to have an experience of higher education by 2020 (Department for Business, Innovation and Skills, 2009: 8). The actual levels may be higher or lower in different countries, but like this goal of 50 per cent, most targets are at levels that would have been unthinkable even a few decades ago.

In that process of moving from an elite to a mass system of higher education, there has been an inevitable shift in the supposed purpose of higher education, and a change in the connection with society at large. These shifts in what we would today call the ‘mission’ of higher education have taken place at different times, to different extents and in different ways in different countries, but it is nevertheless possible to speak of universal trends. However, because of the variety in national settings, it is sometimes difficult to put a precise date on specific trends.

The university was, by its original intent, an international organisation. The Catholic Church and the Latin language were international, if it makes sense to talk in such terms before the emergence of the modern state. Thus the university was international, even before there were nations as we currently understand them.

Such are the difficulties of describing the trajectory of higher education over centuries, when most of the accompanying institutions that we may wish to use to locate universities have undergone radical transformation themselves.

The original purpose of the university was scholarship. Scholars went to the university to collect what direct information they could about the classic texts, primarily of Aristotle, to copy their own text books, and to add their own commentary. The goal was the personal development of the scholar, viewed primarily in spiritual terms. As an important, but small, part of the Church, scholars were supported out of the general revenue of the Church. The model of operation was that of the apprenticeship, with a scholar serving as mentor to younger aspirants. This model persists in a somewhat abbreviated form in the tutorial system of the ancient universities. The goal was detailed interpretation of the texts. Both teaching and research, as we understand them today, were added much later to the functions of the universities.

Undergraduate teaching was added only in the fifteenth century, as the universities became the training grounds for the professionals of the day, the clergy, the law and medicine (although not surgery, which was for a long time more closely associated with the less esteemed trade of barber). This resulted from a shift in emphasis rather than a complete break with tradition, as the classical curriculum prescribed by Plato had included rhetoric, a subject equally valuable for preachers and legal advocates. If not of the same classical provenance, medicine was also a monastic pursuit, which required the study of, and importantly the growth of, medicinal herbs, an activity that was well suited to the walled community of the monastery / college.

So it came about that the medieval university became a professional school for the established professions of the church, law and medicine. An important aspect of these professions is that individual professionals provide a specific service for individual clients, and that they are rewarded by a fee from the individual, whether that fee is a donation given in return for an indulgence received or a fee for legal or medical services. The professional structure therefore did not pose any great threat to the idea that scholars should not be exposed to any systematic or undue external pressure.

The Renaissance, at the end of the sixteenth and beginning of the seventeenth centuries, brought about a huge explosion of intellectual activity. Contact with Islamic scholarship made many more texts of the ancients available, especially the works of Aristotle. This meant that there was much more raw material for scholars to work on than there had been in medieval times, and therefore a flourishing of university activity. This was coupled with the introduction of the printing press with moveable type, which meant that books were much more readily available than they had been at any point in the past. It is perhaps worth reflecting at this point on how little impact the introduction of the printing press had on the university. Where, before, there had been ‘lectures’, or readings, so that scholars could write down their own copy of the source material, the printing press rendered this activity almost completely pointless. However, the practice of the lecture continued, and continues today, as a mechanism for transmitting the experienced

academic's interpretation to the novices. It is perhaps not an accident that the introduction of formal teaching more or less coincides with the introduction of the printing press; a new purpose was to be found for an old format.

At the same time there was the birth of what we have now come to know as science. Strictly speaking, this was not an activity in which the universities were deeply involved. Science was, for the most part, the activity of men outside the universities, men of the world, or members of the clergy who indulged in scientific experimentation as a sideline. These were men of means, such as Tycho Brahe, Robert Boyle, or men who had an independent income from some other profession, such as Johannes Kepler or Galileo Galilei or Christopher Wren, or men who enjoyed the patronage of wealthy sponsors, such as William Harvey or Leonardo da Vinci.

Even the much vaunted link between Isaac Newton and Trinity College, Cambridge, when the apocryphal apple fell on his head, seems not to have had so very much with Newton being cloistered in the life of the scholar. Newton lived a full public life, and spent most of his career in administrative posts for the government. His removal to the quiet environment of a university town in 1665 seems to have had much more to do with the plague that was ravaging London at the time, than with any devotion to scholarship as such. Indeed, Newton's commitment to scholarship, understood as interpretation of texts in the search for hidden meaning, is much more linked to his study of alchemy than to his studies of the sciences as we have now come to understand them.

Only slowly, and one might suspect reluctantly, did the universities incorporate the new sciences. For a reason, we might look no further than *The Glass Bead Game*; the universities, having developed as ivory towers, may have lost the ability to be really creative in the service of society. But once those advances in understanding had been made, the universities were better equipped than anybody else to transmit and interpret the new knowledge. Teaching joined scholarship as one of the principal activities of the university.

That situation lasted into the eighteenth century, at which point scholarship developed in such a way as to produce a double threat to academic independence.

In the first place, scholarship developed in ways that meant that the knowledge of scholars could be used for to practical effect. Archimedes had notably used scientific knowledge to military effect in classical times, but that practice had been lost, together with the secret of many of his specific methods. That situation was changing rapidly on the basis of developments of science derived from the work of Boyle, Newton and Coulomb, and corresponding developments in medicine following the pioneering work of Harvey.

Combining these scientific and scholarly developments with the emergence of the modern nation state, and secular influences, pre-eminently the political influence of freemasonry in political elites in Europe in the eighteenth century, the scene was set for a major reform of the university. The state had an interest in everything that had a bearing upon its own security and power, including the offensive strength of its army, which was largely based upon the use of horses, and the defensive strength of its established infrastructure, which largely depended

upon the ability of walled cities to resist attack and siege. In the eighteenth century, therefore, the emergent nation states began to invest in schools of veterinary science and schools of mining.

The application of veterinary science to the maintenance of cavalry is obvious, but the connection to the schools of mines perhaps needs some explanation. In this context, the word ‘mines’ has two meanings. In the sense most common today, mining is an activity to produce primary, raw materials from the earth, a process that was becoming increasingly important when large armies needed to be equipped with armour and weapons of iron and later steel, and the use of explosives was becoming more common in warfare.

But ‘mining’ is also a contraction of ‘undermining’, an important aspect of eighteenth century warfare, when brick defensive works could be undermined to make them collapse, with or without the help of explosives.

Thus in both senses of the word, ‘mines’ were of considerable importance in eighteenth century military affairs. The result of this was that, particularly in continental Europe, there was a substantial investment in higher education by the state.

This presented a double threat to the independence of universities; the first intellectual, the second financial. The broadening of the range of activities undertaken by a university meant that there were independent criteria by which the scholarship of academics could be judged. The effectiveness of cavalry or the collapse of battlements was not merely a matter of opinion among one’s peers, but a question that could be readily grasped by the lay person, or, perhaps more importantly, by politicians.

At the same time, the presence of funding, and what would have seemed in the medieval tradition to have been generous funding, increased the possibility for influence on non-scholarly grounds. Scholars became increasingly concerned for their personal academic reputations and ability to command public respect and patronage, sometimes to the exclusion of a concern for quality of research or pursuit of the truth.

In theory this was not an irreversible trend, and scholars were free to decide that they could live without state funding and return to the medieval pursuit of truth for its own sake whenever they wished. In practice, of course, that has not happened, and perhaps it would be too much to expect of normal human beings that they would voluntarily turn their backs on the possibility of comfort, if not luxury, from the application of their knowledge. Certainly, there were true scholars even after the injection of state funding into the university, and the spirit of Benjamin Franklin, who famously refused to patent his inventions because he thought that knowledge should benefit the whole of society, is not dead. Another case in point might be Michael Faraday, who reputedly showed the scholar’s traditional disdain for both government and wealth. When asked by Benjamin Disraeli, one of the leading politicians of nineteenth century Britain, what the use of this new invention of electricity was, Faraday is supposed to have responded, “I do not know, but I am sure that you will find a way to tax it”. Sadly for the rest of us, Faraday was proved right in every particular.

But in the main, universities expanded, new institutions were founded, universities absorbed other institutions and activities, and in general higher education grew dramatically after the injection of public funding in many forms. This growth was not only a matter of increasing numbers, or of increasing proportions of adults engaged in higher education, but also in terms of the range and variety of activities that were considered appropriate for inclusion in higher education.

This growth in institutions took place in different ways depending upon the political context. In most of continental Europe, for example, it took place outside the institutions that were formally designated to be 'universities'. The central states, especially under the influence of Napoleon and his legacy, sponsored institutions of higher learning that would produce the vets, the civil servants, and the engineers that society, and in particular the military, needed. A similar pattern can be seen in Russia, where Peter the Great was anxious to import modern western European learning as quickly as possible, and to train his elite cadres to run the country, and the armed forces, as efficiently as possible.

For the most part, the institutions that were founded at that time would now be counted as universities; they were certainly seats of advanced learning. They did not, however, enjoy the same protections and liberties that were traditionally part of the university heritage. These were institutions that were designed to be responsive to the immediate needs of society in very concrete terms.

Somewhere between the universities and the state run higher technical schools came the developments in the Anglo-Saxon tradition. Initially established as the result of private benefaction, a number of universities were established in England and in North America, as well as in the British Empire. These had some of the practical purposes of the state sponsored schools of continental Europe, but were designated universities, and enjoyed some of the protection from state intervention that had accrued to the original medieval universities. One of the recurrent themes in nineteenth century England was concern over the advances that had been made in Germany, especially in the field of chemistry and the synthesis of aniline dyes. This was a direct threat to the commerce of the Empire, and its trade in natural dyes. Civic concern about falling behind Germany motivated a number of civic benefactors to establish new universities, such as the 'red brick' universities of Bristol, Manchester, Leeds, Sheffield and London.

Similar developments took place in the United States, but these were also supplemented in the mid-nineteenth century by the land grants, which provided resources for each state to establish its own seats of higher learning. As the federal government is not mandated under the constitution to provide education, education is a matter for individual states. The Morrill Acts, which allocated federal land to be used to finance institutions, were therefore made, not on the grounds of educational need, but on the grounds that this investment in higher education was necessary for the defence and welfare of the United States. It is not absolutely clear whether this was a real concern on the part of the state in relation to the need for trained personnel to defend the country, or whether it was simply a ruse to make possible on other grounds what the

government wished to do on educational grounds. But again one can see state intervention to expand higher education and to broaden the range of activities that were included within it.

At the same time, governments began to invest in research as we would understand the term today. It has to be said that the concept of research, as ground breaking development of new and practical knowledge, does not always sit comfortably with government bureaucracy. Public finances are normally run on the premise that you can decide what you need and how much you should pay for it, and that effective use of public resources will then be demonstrated by producing the right results within budget. This does not always coincide with an ethos where research is conducted to find unexpected things, and where the outcome cannot be predicted. For that matter, research does not always fit comfortably within the bureaucracies of universities, either.

It is tempting in that regard to point to the mismatch between the expectations of the medieval universities, and the demands of the growing research culture. Cambridge University, for example, did not add an engineering department until the 1930s, and clinical medicine, as opposed to the premedical scientific education, was added much later. Established academics were not quick in adjusting their ideas to embrace the breadth of new activities that were becoming included in higher education. But the medieval universities were by no means alone in having bureaucracies that stifled creativity. The newer institutions were effectively teaching institutions with an emphasis upon providing education, and more particularly qualifications, in the new areas of study. This could stifle, not only creativity, but reflective thinking of any kind.

Only relatively late in this development, in the mid-nineteenth century, did universities introduce a research degree that recognised and rewarded creativity. First in Germany, then later followed by the United States and other countries, the PhD was introduced to mark the universities' entry into the world of research proper. Even so, the PhD, with its requirements for referencing and pedantry, sometimes sits rather awkwardly with the notion of original and ground-breaking research. Where it has become established it is sometimes a hostage to the scholastic traditions of the medieval university, and in the medieval universities themselves its adoption has been less than enthusiastic.

The expansion of the universities, and the inclusion of new activities within their portfolio, was linked with the growth of professional bodies, and the increasing range of employment that sought professional status or was accorded it by society; surgery, dentistry, accountancy, history, archaeology, physical science, nursing, engineering and general management each in turn became incorporated into the curriculum of higher education institutions, and still the growth continued. Today, which may not even be the end of this trend, many countries boast, or aim for, the inclusion of more than half their population in university education, and the range of subjects that can be studied is large and constantly expanding, with institutions keen to exploit any new professional niche that they identify; forensic science, multi-media designer and alternative therapists have all been included in the scope of modern higher education, not always uncontroversially. There is no

indication that other professions will not be included as and when they are invented.

This growth in the number of work activities that have sought professional recognition is only partly about the search for status and money that have traditionally been associated with the oldest professions of medicine and the law. It is also a reflection of the fact that more and more jobs now require the practitioner to exercise judgements on the basis of critical reflection upon sound information. This is the true meaning of the information society, that there are fewer and fewer jobs where manual dexterity and physical technique will produce a satisfactory outcome, and more and more where judgement, reflection and an ability to apply knowledge in novel situations are a requirement. And it is exactly those abilities that higher education is best at developing.

These growing links between higher education and the world of employment mean that, increasingly, universities are no longer the only, or even the main, locus for the creation of new knowledge. Commercial enterprises, private think tanks and newspapers and journals often have an equal claim to be authoritative in their own specific field, sometimes expressing their disdain for academics who are detached from the discipline of the workplace. These institutions have been given protections, by constitution, by statute, by patent and copyright law, and by custom that are equivalent to the protections secured by the medieval university.

At the same time, it is often possible to evaluate the knowledge that is produced inside universities by external standards. A scientific claim will be quickly tested by those enterprises that can see the opportunity for profit in any new development. That is not to say that the determination of that evaluation will always be driven by commercial considerations, but it is to say that there are powerful knowledge bases in modern society outside the university, and the university cannot expect to continue to play the glass bead game in splendid isolation from the rest of society.

There was a time when the university, protected from external influences, was a progressive force for the development of knowledge and society. It is not clear whether that chapter of history has closed forever, but it is clear that if universities remain isolated from those other social influences and judgements they must soon become an anachronism. Calls to restore academic freedom to the *status quo ante*, as though the protection of the university was the only issue, irrespective of other changes in society, are not likely to be successful, or even very edifying. The universities are no longer the sole source of judgement in academic matters.

This raises the question of what the modern university is for, and consequently, what the appropriate measures of performance are that should be used in judging the quality of a university. The view of what quality is will affect the selection of performance indicators that are seen to be appropriate, while the performance indicators chosen will influence the quality judgements made of higher education. Necessarily, whether a university is seen to be doing a good job or not will depend on what one thinks the job of a university is in the first place.

Where quality judgements are linked to the provision of resources, the selection of performance indicators is, in turn, likely to have an impact on the direction which institutions take in terms of policy and future development.

Once, a major function of the university was to be the critic of society. Protected from the unfortunate consequences of 'speaking truth to power', the universities could provide a necessary stimulus for reform and advancement. Since the nineteenth century, at least, in many countries this function has in some measure been taken over by newspapers and specialist political publications which have used investigative journalism to positive effect. Of course, there is always the possibility that these other critics of society will be susceptible to financial pressure, for example from advertisers, or to circulation figures, in a way that universities should be protected from.

A second function was to be a source of practical knowledge. If we take the example of medicine, the university as the locus of research should guarantee impartiality of research findings. However, recent scandals over the massaging of experimental results for the advantage of the pharmaceutical companies, and even the downright suppression of unfavourable results, suggest that the protection the university can offer is inadequate in view of the very large sums of money involved.

Even where there is not any indication that results are being deliberately altered, the very large sums of money may have an influence on policy. Cancer research is a very large field, with charitable organisations investing massive amounts in research. The sheer volume of money available in this field may encourage universities, and even governments, to shift funding towards this area, in order to secure increased external investment.

The fact of the matter is that research activity in medicine, as in many other areas, is expensive, and universities are relatively small players. Universities are not able to isolate themselves completely from this kind of economic pressure. The upshot of this is that there are other, sometimes more important, players in many areas of research that can both form a judgement over the quality of work carried out in universities, can match that quality in their own facilities, and allocate resources on the basis of their judgements. All of these things have major implications for the universities.

A third function of the university was to provide a qualified workforce to staff the machinery of society and to meet the need for educated public servants. For example, lawyers should be well versed in the legal framework and help to resolve disputes in a way that is equitable and promotes the smooth running of society. In the modern state, however, even this process is complicated by the fact that university prepared graduates occupy key positions in the body politic and / or exercise considerable economic power. Such political power and economic power can in turn be exercised, hopefully benevolently, by alumni, possibly coordinated through alumni organisations, and this provides a further feedback loop (and source of pressure) on the university from external sources.

In the USA alumni contributions can amount to millions of dollars annually for specific institutions, and this may mean that the institution will be particularly cautious in areas where it may upset the sensibilities of a major body of benefactors.

Even where there is no conscious or deliberate effort to influence the university, the scale of this preparation of skilled manpower is so large that student recruitment is a matter of major concern to present day institutions. A sudden loss of reputation, leading to even a relatively minor reduction in applications, could, nevertheless, result in a major loss of income for a corporate university. This is witnessed by the concern that institutions show for the published rankings of universities, both national and international, even though such rankings have no direct impact on resources whatsoever.

In short, the sheer success of the university in positioning itself in the heart of social mechanisms means that there is a growing number of places where judgement can be exercised as to the quality of what the university does, and a considerable increase in the mechanisms through which resources can be increased or decreased according to those judgements. The protections the university was afforded to make it possible to pursue truth rather than political or religious advantage are not now sufficient to protect it from economic pressures in the modern world.

Universities in different countries have successfully resisted these influences, or embraced them and moved forwards, in different ways and to different extents. However, the concept of what counts as a university is now broadened so that relatively few would think that higher education can only take place in an institution that has more than 800 years of history. Yet those early institutions still exercise an iconic influence over what we think of as the purpose or main functions of a university.

We think of universities in terms of the 'teaching/research nexus', yet both of those activities are relatively recent additions to the repertoire of universities. Even within relatively homogeneous sectors of higher education, there are very substantial differences in the missions and purposes of institutions. These are not always captured in the mission statements of those institutions, but remain unspoken, in the traditions of scholarship, public service, or professional development that those institutions look to as part of their reason for being.

That necessarily means that the student experience in different institutions will be different depending upon the institutions that they attend, even in the same subject area. This poses rather severe difficulties for those whose concern is to maintain, or raise, standards. With notable and honourable exceptions, the teaching that I experienced in an ancient university was not of high quality. I have seen 'better' teaching, in terms of the technical delivery of material, in much younger institutions. But without exception, even the worst lecturers that I suffered brought something else to the lecture theatre. They had a commitment to their research, an engagement with their professional bodies and the development of international standards, and a sense of social connectedness to how their area of expertise developed, which transcended the actual delivery of content. For me, that was a very important part of the student experience. For another student, more determined than I was to become an engineer, that may have been less important than the delivery of knowledge about engineering processes.

This diversity in what institutions can provide in terms of experience, and in what they aspire to provide, makes it very difficult to talk about quality. I have seen lectures that look pedestrian, even dull, but that have provided answers to the questions that the students present needed and wanted at that moment. I once observed a colleague teaching, who quite literally repeated every sentence she said three times, word for word, identical on every occasion. That sounds as though it would make an extremely dull lecture, but in fact, taking into account the fact that most of the students in the lecture were not native speakers of English, and they wished to make notes, the pace of the lecture was perfect, and the repetition met their needs precisely. At the same time, the lecture provided more critical insight and analysis than I see made available in many presentations that use electronic media and expensive visual aids. The result was that the students appreciated and valued the work my colleague did. On the other hand, I have seen lectures that have been stimulating, dynamic and professionally presented, but which, on reflection, had very little of substance to say at all. As an insider with a lot of experience of teaching and learning in higher education I can form judgements about where one might seek different kinds of student experience, and what each might mean. For an outsider, understanding the implications of such differences is very much harder.

One of the other implications of the increasing diversity of higher education, the ‘massification’ of higher education, is that many outsiders are now included as students. There has been a growing demand on institutions to provide information that will enable such naïve users of higher education to make informed judgements about what to expect from the student experience. Given the many layered purposes of universities, and the variety of ways in which they embody those purposes, this can be a very difficult task, almost always resulting in a rather foolish simplicity.

What the history of university education should teach us is that there is not a simple answer to the question, ‘What is the purpose of a university?’ At different times and in different places universities have had different purposes. And this is not simply a question of mission creep. New purposes have been added, laid down on top of existing purposes, interpreted through the lens of earlier purposes, and providing the foundation for later purposes. And among those that spring to mind as the obvious purposes of a university in the modern world, teaching and research are relatively late additions. What this complexity means for the formation of judgements about the quality of higher education will be taken up in the subsequent chapters of this book.

PERFORMANCE INDICATORS AND BENCHMARKING

I am not sure how best to describe the reforms that took place in higher education in the 1980s and 1990s. One version of the story is that there was a global movement, driven by liberal ideology, that promoted the introduction of performance related funding for universities, a shift of the financial burden towards individuals, and a 'new managerialism' that emphasized transparency, accountability and moves to make the institutions of higher education responsive to market pressure. The rationale was that universities had fallen into the control of academics, who, rather than serving the needs of the students or society, were busy creating a comfortable environment for themselves, where they appointed their friends as external evaluators so as to avoid real scrutiny. This process was not supposed to be unique to universities, but was supposed to be widespread in the public sector, and was described as 'producer capture'.

The argument is that in order to remove the power of the academics to hold the system to ransom, governments handed the money that they had previously given to the institutions over to the individual students themselves. Coupled with an increase in the available information about what happened inside higher education institutions, this would increase student choice, creating a powerful force that academics could not ignore. The funding would follow the students, and if the universities could not attract enough students and respond to their needs, then the institutions would face major cuts in government funding. In this way market forces would be used to tame the rampant self-interest of workers in the public sector, funded largely from tax revenues.

On the positive side, this account describes that part of the political scene that might be described as the Thatcher-Reagan years (Margaret Thatcher, UK Prime-Minister, 1979-1990 and Ronald Reagan, US President, 1981-1989). But on the other hand, this theory of globalization explains too much. Certainly, in the UK there was a move to transfer funding from the block grant to institutions to the student fee that the government paid on behalf of each student. At one level this was simply the moving of government funding from one pocket to another. But it did make the number of students recruited an important element in institutional planning, and make institutions more reactive to demand from prospective students for more places.

However, the policies in the US did not undergo a similar transformation, because federal funding generally had been directed to the individual. The specific constitutional setting of education in the US meant that the federal government had, in practice, been required to support the education of individuals, rather than educational institutions, for a long time. The First Amendment to the Constitution

requires that the government “make no law respecting an establishment of religion”, to avoid any suspicion of which the federal government is deemed not to be able to fund religious institutions. At the same time, the Fourteenth Amendment guarantees all citizens equal rights before the law, which means that a student in a religious institution could not *not be* funded, if a student in a secular institution was funded.

Thus the standard way in which the US government injected funds into the higher education system was by providing financial support for individuals so that they could take advantage of the educational opportunities they selected for themselves. Prominent among those schemes were the 1944 GI Bill, which provided support for returning soldiers to enter education and training, and fuelled the post-war expansion of higher education. Similar bills after the Korean War and the Vietnam War, and subsequently extended to forces personnel serving in peacetime, have used this mechanism to inject billions of dollars into the higher education system. In that sense there was no shift towards resources following students, because that was the system that had pre-existed the era of Reaganomics.

Looking beyond the very apparent political line of Thatcher and Reagan, similar reforms were implemented in Australia, by the left of centre Hawke labour government, in Sweden by a left of centre social democrat government and in the Netherlands a change of government in 1989 made little difference to the trend of higher education policy, to take only a few examples. Even in the UK, most of the mechanisms remained intact when the right of centre, conservative government was replaced by the left of centre, New Labour government in 1997. The idea, therefore, that reform in the funding of higher education was the result of the application of a rampant individualism in economic policy and an ideological commitment to creating an open market, while attractive, does not really account for the facts. This is one of the interesting features of globalisation that makes it so difficult to theorise. There certainly appeared to be a global trend towards increased attention to output measures and the efficiency of education systems, but the way in which that trend was manifest in each national setting is unique, and appears to be fully explained by the local constellation of political forces.

In the UK, where the argument that there was an ideological drive to introduce market forces into the system under the Thatcher government is most plausible, there is evidence that the reforms did not follow a smooth, planned path. Handing the money over to the students and letting the institutions compete to attract them may sound like a very fine way of preventing producer capture, but it has a side-effect that no government can tolerate – it meant relinquishing control over the total level of government spending on higher education, and handing it over to the prospective students, the admissions tutors, and market forces. Although the rhetoric of the market was strong, they were never true markets because the ‘customers’ did not pay the full price, but acted as agents for the government. After only a few years of letting market forces rip, the government stepped in again to control the number of students that an institution could enrol. The arrangements that developed are, therefore, normally described as ‘quasi-markets’ rather than markets, because of the high level of government intervention required to

maintain them. But there were no ideological demagogues extolling the virtues of quasi-markets.

So there were identifiable trends in the reform of higher education in the 1980s and 1990s, but whether they had a common cause, and if so what it was, remains elusive. There may be something about the expansion of higher education away from an elite system towards a mass system that prompts such changes in funding allocations, or there may have been uncritical cross-cultural borrowing from the system that had moved furthest towards being a mass system, or there may have been other influences. But for whatever reason, there was a strong move towards funding mechanisms that rewarded institutional outputs, and that, in turn, led to increasing concern over how those outcomes should be measured. Even at the most basic level, measuring the system became increasingly important. If very little money is passed over from the government to the institution on the basis of the number of students studying, even records of the number of students in an institution can be approximate. Such a situation is unacceptable if large amounts of money are involved, and the date on which a student who has been offered a place is deemed not to have taken that place up, or the date on which a student leaves an institution, become matters of considerable importance.

The importance of this shift away from the funding of inputs towards the funding of outputs can be seen most clearly in the introduction of market rhetoric in Central and Eastern Europe, where it required a considerable re-orientation. Many systems willingly embraced the notion of the market, and the idea that institutions should compete in the market to attract extra funds to support their activities. However, bureaucrats in the state ministries had rather a different vision of this from the academics. Through decades of operating the planned economy, the state had, at least notionally, supplied the institutions with everything that they needed to run – staff, equipment, buildings and other resources. If the institutions now attracted additional funds, the bureaucrats argued, they were funds that were over and above the needs of the institution, and the state should claw them back. The academics, who on this point had a better grasp of market economy, argued that there would then be no incentive for them to attract additional funding, and any funds so generated should stay in the institution. On the other hand, where the bureaucrats certainly did understand the market system was the question of staff salaries. If the academics were not effective in bringing in students, and therefore resources, they would suffer the economic consequences. On this point the academics, understandably, took a more traditional perspective, expecting the state to maintain their salaries in real terms, even if their skills were not in demand.

The lack of mutual comprehension between the civil servants and the professors was part of the general bedlam that reigned in the higher education systems of Central and Eastern Europe after the processes of perestroika and glasnost which changed Europe in the late 1980s. The effects were generally swamped, however, by the effect of introducing market forces into the market place, the loss of purchasing power of academic salaries, the burgeoning of the private sector, and the sight of professors taking on part-time jobs in order to make ends meet.

Although less marked in other parts of the world, there was a distinct trend away from historical models of financing, and towards such techniques as zero-based budgeting. In historical funding an institution would make a claim for resources, starting from its allocation in the previous year(s). Last year, it had needed ten members of staff in this department, so next year it would need the same, adjusted for inflation in salaries. New projects or courses might be reason for seeking additional funding, but most of the discussion was at the margin. Zero-based budgeting involved starting from scratch every budgetary cycle; expenditure had to be justified in terms of outcomes, and no expenditure was to be sacrosanct. And normally justification was in terms of outputs or outcomes. The institution will produce 50 graduate lawyers next year, at a cost of so much per head. Management tools, and particularly performance indicators describing outputs, suddenly became much more important.

For example, the Higher Education Funding Council for England appointed a Performance Indicators Steering Group in 1998, and has published performance indicators since 1999. This process formalised the collection and publication of data, and a wider range of data, but basic output data had been collected and used to structure funding since the late 1980s. Such use of performance indicators, especially in an atmosphere of distrust about ‘producer capture’, raises questions about standards, and of academics manipulating performance indicators in order to raise funding. In the UK, the use of output measures as part of a funding formula was therefore linked with the establishment of the Quality Assurance Agency in Higher Education (QAA), itself the formalisation of earlier precursors, and similar measures have been taken to evaluate and ensure quality in other countries.

The refinement of performance indicators therefore developed to support three related applications. In the first place it made it possible for the funding agencies, on behalf of the government, to allocate resources. Secondly, it made more information available to the public, and especially to prospective students, parents and employers, which was supposed to underpin the exercise of student choice, which was crucial to bringing market discipline to the sector. Indirectly this made the raw material available for the construction of league tables, which has been a popular sport with publishers ever since. I will examine the merits and demerits of such league tables more fully in the next two chapters. And thirdly, the performance indicators became the foundation for the process of benchmarking.

Before moving on to examine benchmarking in detail, one further observation may be in order about the use of formula funding. The expansion of universities towards mass access has again raised the question of the relationship between teaching and research in an acute form. At the beginning of the twentieth century, and right through to the 1970s in most systems, it had been accepted that the quality of the university as a whole rested on the fact that those who taught were also at the cutting edge of research. Professors should understand what lay at the cutting edge of their discipline, which means that they should be integrated into that body of scholars who were performing great experiments, and if at all possible should be engaged in those experiments themselves. In the UK, when there were fewer than 20 universities, it had been assumed that all members of staff of those

institutions would divide their time roughly equally between teaching, research and administration. With the prospect of the number of institutions rising to over 100, there were clear concerns that there would be duplication, most obviously, and most expensively, in physical plant. How many radio telescopes, particle accelerators, super-computers or cryogenic laboratories does a country need? Indeed, as the case of CERN or the Joint European Torus make clear, how many countries does it take to need a particle accelerator, or hydrogen fusion experiment?

The government therefore sought measures of research effectiveness, so that funding could be directed towards 'centres of excellence', and the government would not be saddled with the expense of maintaining duplicate sets of equipment, each of which was not fully used. And so began an exercise in research selectivity, whereby the government would use measures of research quality to concentrate research funding on the most deserving (i.e. the highest quality) universities. This process was continuously refined between 1986 and 2008, when it was most recently conducted as the Research Assessment Exercise (RAE). Its future, as the Research Excellence Framework is still under discussion. In very crude terms, linking funding to measures of research excellence has ensured that funding has been directed to those universities which were among the oldest, and which had strong reputations in terms of their research, anyway.

The development of the RAE over the twenty years or so of its existence was coupled with a move to shift government research funding away from general support to the sector, with more funding attached to specific research projects and research programmes, and distributed through the Research Councils or in the form of contract research from government departments, such as the Department for Health or the Ministry of Defence. The fact that most government funded research in the US is handled through such fixed term and project funding means that the US had little use for a research selectivity exercise on the scale of that in the UK. Many countries that, like the UK, have a dual funding approach – with basic infrastructure funded through a general grant, and project funding added on top – have followed a pattern similar to the RAE.

It should be noted, however, that the rationale for research selectivity is based very heavily on a model taken from science and engineering, and relates to physical plant, and the need for a 'critical mass' of research activity in order for a research centre to be effective. There is no indication that the same logic necessarily applies in the humanities and social sciences, where a different pattern can be found, of a lone scholar or a small group of researchers, although the larger grouping is also possible. In the humanities and the social sciences, where the level of research funding is lower anyway, and the burden of the RAE is disproportionately heavy, there remains the possibility that it would be more effective simply to abandon selectivity altogether and distribute research funding across all institutions. Ironically, this seems to be an area which is not being very much researched.

However, such research selectivity has done little to support the link between teaching and research, which was formerly thought to be at the heart of the quality

issue in universities. The need to produce high quality research in order to secure funding has accelerated specialisation, meaning that teaching and research are increasingly performed by different members of the academic team, often housed in different administrative units, sometimes with research centres being shared between institutions. But it has also raised the question of what should be researched – if the research / teaching link is crucial to the environment of the university, what should the research be about?

An increase of research into issues of learning and teaching has raised the question of the relative merits of such pedagogical research as compared to research on the ‘cutting edge’ of the discipline. Needless to say, many traditionalists argue that pedagogic research is a soft option for those who cannot cut it in ‘real’ research, another example of the dictum that those who can do, but those who cannot teach. Those with a concern over learning and teaching issues argue that including pedagogic research within the specialist area strengthens, rather than weakens, the link between teaching and research. In the recent RAE, all discipline areas claimed that they were going to attach great value to research into the learning and teaching process in their discipline, but the results suggest that many paid no more than lip service to that principle. Jenkins, Healey and Zetter (2007) argue that the link between research and teaching should be more intimate still, with learning through research being used as a way of inducting students into the excitement and mystery of a discipline area. Sadly, since such an approach is unlikely to have an immediate effect on performance indicators of either research output or teaching quality, they probably have a long row to hoe before that idea is taken seriously in the broad mass of institutions.

In general, what this discussion leads to is the conclusion that the current state of the link between research and teaching in higher education in the UK is moot, even though the majority of academics will assert its importance without pausing to think out exactly what that link is or should be. In most cases a belief that the link between research and teaching is central to the function of a university will be coupled with the view that the link is best secured by the same person being involved in both research and teaching, that research that contributes to the discipline, rather than to teaching and learning, is high status, and that the link between the content of the research and the content of the teaching is unimportant. It is but a small step from such a pattern of priorities to the expression of the view that teaching is getting in the way of research. Clearly, this is not a sustainable relationship between teaching and research, but until the majority of academics are prepared to consider again what the relationship should be, perhaps even take seriously the ideas of Jenkins *et al.*, (2007), we are unlikely to see the relationship recast.

While the model of the RAE employed in the UK has been influential in some countries, this pattern of development has not been uniform across all countries. For example, in the countries of Central and Eastern Europe it was quite normal for research to be conducted in institutes that were separate from the universities, and came under the direct management of a national academy of sciences. While the movement of personnel across boundaries, between universities, national research

institutes and ministries of higher education, was frequently more fluid than in the UK, the functions of research and teaching were more strongly divided in terms of institutional setting. That is to say, individual academics might well have direct contact with both teaching and research, but that might be under the auspices of different institutions, either secured by multiple affiliations, or by career moves between institutions. The crises in finance that followed upon the introduction of market regimes after 1988 produced differential pressure in institutions of higher learning: public demand for expansion of teaching institutions was more immediate and more widespread than public support for research. Exactly how to promote high quality teaching and research, and what the relationship between them should be, is thus an important and recurring issue in the countries of Central and Eastern Europe, but because of the differences in historical and cultural heritage the way that discussion is played out in practice is different.

All the same, between 1995 and 2006, expenditure on tertiary education averaged about one and a half per cent of gross domestic product in all OECD countries, and was on a rising trend in all except Finland, France and Norway (OECD, 2009: Table B 2.1), and a similar trend was evident in spending on research, with the average for OECD countries being over two per cent (OECD, 2004). With these levels of expenditure, and the increasing trend, it was perhaps inevitable that governments were going to increase demands for evidence that this money was being well spent in institutions of higher education. In an attempt to evaluate and improve the efficacy of that process, government and quasi-government bodies have been producing growing amounts of data about inputs to and outputs from the teaching and research processes of higher education. UNESCO and OECD databases cover a growing range of activities in a growing number of countries with ever greater precision.

One of the developments that follows from the ready availability of publicly accessible performance indicators is benchmarking. Originally a benchmark was a surveyors' mark that was used as a reference point in subsequent surveying exercises. So, for example, having established that a specific location was a certain height above sea level, the surveyors would carve a datum line into a convenient piece of rock, so that subsequent surveys need not go back and start again at the beginning, but could begin from the benchmark, confident that they knew how high above sea level that mark was. 'Benchmarking' has thus become a metaphor for a family of activities that are loosely connected with standards, comparisons and measurements.

As an aside, it should perhaps be mentioned that a benchmark was of much greater value to the surveyor if it could be seen from a wide range of places, or, which amounts to the same thing, if it had a panorama over a wide range of countryside. In the UK, at least, government surveyors would therefore choose the summits of hills and other prominent sites to build a permanent base for a theodolite so that measurements could be made to other landmarks in the country. This specific kind of benchmarks, known as triangulation points, was of particular value to cartographers and surveyors. If two or more such triangulation points gave a view over a broad sweep of countryside, map-making could be rapidly advanced

by a process of triangulation. It seems that surveying is fertile ground for such metaphors. It is strange, however that it should be so, as one can hardly imagine a more positivist approach to the measuring process; the objective landscape ‘out there’ is represented in a direct way by a scale map ‘in here’. There is not much scope for social construction of reality in the surveyor’s use of benchmarking and triangulation. We should not be too surprised if the metaphors show signs of strain at being stretched to cover social processes.

Benchmarking is used to cover at least three distinct practices. Two of those might be described as pursuing ‘good practice’ and pursuing ‘best practice’. Benchmarking against best practice is a process of establishing how our institution compares with the best in the field, to find out how our performance measures compare with those of others. Benchmarking against good practice involves a comparison with an institution that is in many ways similar to our own, with the intention of finding out, in some detail, how they do things, and whether we might learn anything from them. Benchmarking against best practice involves a focus on outcomes: benchmarking against good practice involves a focus on process. To go back, for one last time to the surveying metaphor, the map-making surveyor is interested in the triangulation points on top of all the hilltops, the highest points, in order to be able to map the countryside better. The surveyor for a railway contractor has no interest in the highest ground, but is simply interested in the relative difference of height of two points, and the amount of earth that needs to be moved to create a smooth grade between them.

Needless to say, most people do not distinguish between ‘good practice’ approaches and ‘best practice’ approaches, but talk about them as though the terms were synonymous, or lump them together in an ill-defined bundle of measures. Thus, the UK government offers the following definition of benchmarking:

Benchmarking helps to improve process effectiveness, product quality and service delivery. It enables an organisation to compare their existing performance and approach to others, and identify elements that can be adopted and adapted in their business context. Benchmarking enables organisations to compare and improve themselves and prompt innovation.

Although benchmarking is widely used, it not a precise science and there are many different approaches - ranging from models of quality measurement to basic comparison undertaken on a pragmatic basis. It is often necessary to tailor an approach that provides a sustainable method of benchmarking in view of the organisational goals and business needs (Office of Government Commerce, 2008).

Benchmarking against best practice is a perfectly legitimate process, but it should be the starting point of a discussion, not the end point. So, for example, it might be very sensible to ask why one hospital has better success rates than another on a specific operation. However, if it is the case that the hospital with a higher success rates takes only routine cases, while all cases that are in any way complicated, or have additional risk factors, are referred on to the hospital with the

lower success rates, we would conclude, at the very least, that the comparison needed further investigation, rather than taking the raw figures at face value. Benchmarking against best practice, therefore, carries some very serious risks of over-simplification.

Benchmarking against good practice is about quality improvement rather than quality assurance. It involves looking at the processes which are being used by others who have similar purposes, and seeing whether, and how, improvements might be adopted and adapted in order to improve the processes that we are using. This is very much in line with the approach to quality advanced within ISO 9000 in relation to educational institutions (ISO, 2007: x), which emphasises that a process orientation to quality is a basic principle:

Process approach: educational organizations should adopt a process approach when developing and implementing a quality management system. The organization should identify the degree to which each operational process creates learner value. For this reason it should include the processes related to the aim of the organization. Understanding interactions among processes is important for the educational organization to improve processes while balancing the system at large.

There remains a fairly strong, and unfortunate, use of language that stresses business values in the International Organization for Standardization (ISO) literature, even when there is a specific effort to transfer from a business context to an educational context. For example, the *International Workshop Agreement* on applying the ISO 9000 standard to educational institutions states: “Educational organizations typically provide a service that is intangible, not storable, and consumed during delivery” (ISO, 2007: 7). I shall return to the question of such use of language in Chapter 7, when I discuss the description of education as an economic product in more detail. For the moment, I simply wish to reflect on the process orientation to quality management of the ISO, which can be contrasted with the widespread use of output performance measures in education. The applications of output measures include formula funding and quality assurance applications by governments and league table construction by publishers. In Chapters 5 and 6 I will show how this results in an approach in existing league tables that amounts to benchmarking of best practice, comparing all institutions to Harvard (or the national proxy for Harvard), rather than benchmarking against good practice. Benchmarking against good practice would be perfectly possible, and infinitely preferable.

In the context of the performance indicators that have been developed in the UK, and are therefore available to publishers and others who wish to compile league tables in the UK, it has already been noted that the Higher Education Funding Council for England appointed a Performance Indicators Steering Group. In its first report the committee observed in the summary, “Of the wide range of outputs from higher education, the group identified measures of performance relating to: learning and teaching of students, extension of knowledge through research, [and] application of the knowledge and resources of higher education to the needs of business and of

society more generally”(PISG: 1999: 5). In other words, an elision has produced the notion that output measures and performance indicators are the same thing. In the context of benchmarking for good practice, this may be an appropriate stance, in the sense that the direct comparison of process indicators is only of value if the institutions considered are in some real sense comparable. Publishing process indicators for the whole sector may not make sense if there is then the risk that these will be used to produce simplistic and misleading comparisons.

However, we can see here in the documentation in the UK an emphasis which is also reflected more widely around the globe, if not in terms of deliberate policy, then at least in terms of the indicators that actually get published and converted into league tables. The focus is on product and outcomes rather than process, and the comparisons that result tend to focus on best practice rather than good practice, on quality assurance rather than on quality enhancement.

Before leaving the conclusions of the Performance Indicators Steering Group, I should perhaps make one comment about their approach to data envelope analysis (DEA). In Chapters 5 and 6 I will use DEA to re-analyse league table data, and show the very limited assumptions that are embodied in the league tables that are published. It may be of interest to note that DEA was also considered by the Steering Group. They concluded that, “DEA provides for each institution an efficient reference set of peers, which would seem to be useful for benchmarking. However, some of the reference institutions were, to anyone with any knowledge of the sector, completely inappropriate” (PISG, 1999: 47).

What they meant was, there are some dimensions on which the performance of Oxford and Cambridge does not compare favourably with a number of much more recently established institutions, and there are few dimensions where Oxbridge excel. Those of us who work in less prestigious institutions may sometimes have thought that performance indicators were picked on the basis that they should confirm prejudices about established hierarchies. I had hardly expected to find such a clear statement that a method was to be rejected if the results it produced did not accord with expectations. There are many vested interests in issues related to the quality of higher education, and even those who do not have strong personal interests will be imbued with prejudices about the relative merit of different institutions. If we really are to have the best quality universities that we can, the result is not going to be achieved by sweeping difficult issues under the carpet because they are ‘inappropriate’.

Finally, there appears to be a third, quite distinct use of the term ‘benchmark’ that has been developed by the Higher Education Funding Council for England, meaning a target, derived in some way from an adjusted average for the sector. Or as the Council puts it, “Because there are such differences between institutions, the average values for the whole of the higher education sector are not necessarily helpful when comparing HEIs. We have therefore calculated a sector average for each institution, which takes into account some of the factors which contribute to differences between them. The factors allowed for are: subject of study, qualifications on entry [and] age on entry (young or mature)” (HEFCE, 2003). That is to say, in this context, the word ‘benchmark’ means a ‘target’ adjusted for the

institution using a model to compensate for factors that influence the level of performance of the institution.

This would be unobjectionable if one could have any confidence at all that the model used to adjust for different effects had any prospect of being an accurate representation of actual influences. Quite apart from the fact that in education such models rarely account for a convincing proportion of the variance in output measures, there is another reason to lack confidence in such modelling procedures. I have complained elsewhere that education models are frequently deficient because they model educational performance solely in terms of the past, while education, like most human activity, is purposeful (Turner, 2007: 3). At a national level, and using multi-level statistical analysis, Wiseman et al., (2009) have provided evidence that orientation towards future labour market conditions can explain variations in performance in mathematics in high school. That is to say, anticipation of the future usefulness of learning can have an important impact on educational performance, as any reasonable person would suppose that it would.

The consequence of this is that two institutions might be directly comparable in terms of the student population they recruited (academic performance, social background, schooling, etc.) and in resources (buildings and staff) and yet have very different performance because their student bodies develop different anticipations of what will happen to them when they graduate. This might be because one institution is in a flourishing and vibrant local economy, while the other is in an area which is depressed and where a major industry has closed down. Or it may be that the two institutions simply have, for the time being, different cultures with regard to future expectations, or that a local newspaper takes a particular line (positive or negative) on employment issues. Any number of things might influence student expectations in this way, and without further research there seems little point in speculating further. However, what is certain is that such influences are not built into the models used for setting institutional targets, or 'benchmarks' in this sense.

In this chapter I have looked at the issue of performance indicators and benchmarks, examining why government agencies have found it desirable to make more information public about universities, and what types of information have generally been made available. I have shown that the focus has generally been on measures of output, even though the theory of quality management suggests that a process focus is much more appropriate to the promotion of quality.

To their credit, national and international agencies have shown some sensitivity to the fact that comparisons are difficult in a field as diverse as higher education, and have resisted naïve comparisons. I will devote the next two chapters to publishers and other organisations that have not been so circumspect, but have used the wealth of data being published about universities to construct rankings and league tables.

NATIONAL LEAGUE TABLES

When discussing quality in higher education, it is hard to avoid national league tables of performance, because they have become so ubiquitous. I will start by describing national league tables in the UK. The reasons for starting from the UK are various, quite apart from the fact that I have been brought up in the UK system and am therefore more familiar with it. However, league tables in the UK have some special features which make them rather different from, for example, the league tables produced by *Maclean's* in Canada or those produced by *US News and World Report* in the USA.

Interestingly, league tables in the UK rank all institutions on the same basis. While other league tables draw distinctions between different kinds of institutions, and make some attempt to list them separately, it is accepted in the UK that all institutions will be compared directly on the same criteria. In other countries it appears to be thought foolish to compare a large, publicly funded, research institution with a private university that focuses on undergraduate teaching. While there are clearly distinctions of status in the minds of those who construct, and those who read, university league tables in the UK, the view is generally taken that this represents a continuum rather than a difference in kind. Typically, Hodges (2009) reported that we were seeing the end of the great divide in UK universities: “The former polytechnics have broken through what is known as the binary line much more dramatically than ever before, judging by the number of ‘new’ universities now appearing in the top half of this year’s league table compiled by The Complete University Guide in association with *The Independent*”. This captures the sense that there are important distinctions between institutions in terms of their history and background, but they should, nevertheless be compared on equal terms, and not always to the advantage of the big, established players. In most other countries the old and new institutions would be presented in different tables. This is such an important reflection of how quality is viewed in different contexts that I will return to it. For the present I simply note that the production of league tables in the UK is conceptually simpler because there is not the perceived need to distinguish between different kinds of institutions.

The other important feature of league tables in the UK is that there are three sets of national league tables that are widely available and widely consulted, each produced by one of the major national newspapers. A fourth serious national newspaper used to publish its own league table, but has not produced one for several years now, while the less serious press produce league tables that focus on the quality of entertainment on campus, the gender ratio in the institution, or other aspects of student life. The result is that there is a plethora of available data about national league tables to draw on in the UK.

For the purpose of this chapter I will draw heavily on three league tables, published by *The Times*, *The Guardian* and *The Independent* (2009) in association with “The Complete University Guide”. The first thing that needs to be noted about these league tables is that they are all, substantially, the same. Using Spearman’s rank correlation coefficient to compare rank orders between different league tables, results over 0.95 are typical, indicating that, to all practical intents and purposes, the league tables rank the institutions similarly. This is true whether one looks at year on year change for the same league table or compares the performance of the different league tables in the same year.

The main exception to this rule of homogeneity is the *Guardian* league table. The *Guardian* differs in its approach from the other publishers; rather than compile a league table of institutions on the basis of data relating to the whole institution, the *Guardian* constructs subject-based league tables in all subject areas, and only afterwards collates these to produce an institutional ranking. This has the double effect of making their methodology slightly less transparent, and producing results that are distinct from the other league tables. Even so, a comparison of the league table produced by the *Guardian*, and the tables produced by the *Independent* and *Times* results in a Spearman coefficient in excess of 0.85, indicating a very strong family resemblance between the tables.

Supporters and compilers of league tables would wish us to believe that this consistency across methods and data indicates that the tables are measuring some real phenomenon, and that the very consistency of the tables indicates that they have got hold of some reliable measures of quality. But it is worth noting that there is a convergence of approach in the different league tables, and that they consciously adopt similar procedures. So, for example, there has been a growing use of ‘Z-scores’ by table compilers, though the reasons put forward for their use are varied and inconsistent. Essentially a Z-score involves standardising each measure so that it has a mean of zero and a standard deviation of one. The *Independent / Complete University Guide* (2009) explains: “A particular feature of this Table is the way the various measures are combined to create a total score. All the scores have undergone a Z-transformation, a statistical method for ensuring that each measure contributes the same amount to the overall score and so avoids the need for scaling. (For the statistically-minded, it involves subtracting the mean score from each individual score and then dividing by the standard deviation of the scores)”.

First, there is an implied response here to a criticism that I and many other commentators have raised in the context of league tables. The basic process of producing a league table involves collecting data on a number of performance indicators, normally from sources that are both reliable and public. In the case of league tables in the UK, publishers normally collect their data from public bodies that have a responsibility for collecting such data, such as the Higher Education Statistics Agency. In addition, they make the raw data available to the institutions, which can check and correct any shortcomings in the publicly available data. The result of these processes is that there is rarely any dispute about the actual data that is used in compiling the league tables. The more contentious issue is that the data

are then combined, normally by adding the different indicators, each indicator being weighted by an ‘appropriate’ amount. The criticism that has been widely raised is that these weightings are arbitrary, and, indeed, may be selected in order to produce a preconceived ranking of what represents ‘a good’ or ‘the best’ university. As the quote above makes clear, the use of Z-scores is supposed to overcome this difficulty, to avoid the need for scaling, and to remove the arbitrary element from the process.

There are two reasons why this argument is nonsense. The first is that there is no reason to suppose that all the indicators should make an equal contribution to the overall judgement of quality. Suppose we took an unlikely indicator of research quality, such as the proportion of students travelling to the campus by bicycle. (Having seen student transport at Oxford, Cambridge and Harvard, and a number of other universities, I am not at all convinced that such a measure would be as foolish as it might at first appear.) It would be difficult to argue that such a measure should contribute the same amount to an evaluation of research quality as, say, citations per member of faculty or peer evaluation. Another case might be where there are government policies in place to ensure that there was very little inter-institutional variation in a particular indicator, such as spend per student. Where there is very little difference between institutions, it would be difficult to argue that such an indicator should necessarily contribute as much to the overall evaluation as other indicators that showed greater variation. Even the absence of weighting is, in fact, an arbitrary weighting.

But the main reason that the argument is nonsense is because the table compilers do not use Z-scores in that way. They adjust weightings anyway. Again, three paragraphs later, the Complete University Guide (2009) explains: “As we have mentioned, a statistical technique called the Z-transformation was applied to each measure to create a score for that measure. The Z-scores on each measure were then weighted by 1.5 for Student Satisfaction and Research Assessment and 1.0 for the rest and summed to give a total score for the university”. This explanation is clear, but in direct contradiction to the previous explanation.

In the context of international league tables the *Times Higher* gives a simpler explanation for the use of Z-scores: “We have solved this problem by switching from this arithmetical measure to a Z-score, which determines how far away any institution’s score is from the average. Some universities suffer as a result, such as CalTech on citations and the London School of Economics on overseas students. But this approach gives fairer results and is used by other rankings organizations” (Ince: 2007: 7). (Incidentally, CalTech remained at seventh place, the same place it had occupied in the previous year, so it did not suffer too badly. The London School of Economics dropped 42 places, but remained in the top 60 in the world.) But the justification of the method rests upon the double support that (a) it produces the right results, and (b) other league tables do it anyway.

Constructing league tables thereby becomes a circular process in which a league table is validated on the grounds that it does not produce any very big surprises. All league tables look pretty much like all other league tables, and a league table that does not have Oxford and Cambridge at the top (or Harvard and MIT, or the

University of Toronto, or the Universities of Sydney and Melbourne, depending on your national setting) has clearly used a questionable method. The emphasis is always on producing similar, repeatable results, a concentration on what the statisticians describe as reliability.

Now reliability is important in a statistical measure, but it should not be confused with validity, namely the idea that the measures that are being used are actually representative of the concept that we are trying to represent. The distinction can, perhaps, be seen in an example. Suppose that we wish to run an admissions policy for a university, but do not wish to go to all the trouble of running examinations and tests and interviews. We decide to measure a student's capacity for higher learning by measuring the volume of his or her brain. (And let us suppose that this is quick and cheap to do with modern technology.) The statisticians will tell us that we have a measure that is reliable. We can, with considerable reliability, repeat measurements, produce rankings and consistently come up with the same results. However, brain volume does not correlate at all well with either learning or intelligence. We have a well-behaved, reliable statistic which is simply not valid as an indicator of what we intended to measure. The key question in reading national university league tables is one of validity, whether the indicators used to construct the table, and the way in which they are incorporated into the table, are indicators of quality in the institutions. What I am going to do in this chapter, as I have done elsewhere before, is use data envelope analysis (DEA) to examine how different variables do and could contribute to an overall understanding of institutional performance. In doing so, I will be producing some league tables that are very different from those that appear in the national press. The differences between the league tables that I produce and those that are generally published highlight difficulties in the process of producing composite measures of institutional quality, and also focus attention on issues of validity. I do not, at this point, propose that the league tables I will produce are serious contenders to replace what I might describe as 'crude' league tables, although I do think that DEA offers a viable basis for using quality indicators in a sensible way, and I shall return to that in detail in Chapter 9.

Before embarking on that examination of the league table process, two further comments need to be made. Although I have stressed the homogeneity of the league tables, and the fact that, on any statistical measure, the league tables are 'the same', that is not at all how the matter feels to those who are involved. The most recently published tables from the *Independent* and the *Times* have a Spearman correlation coefficient of over 0.95, but that does not mean that all, or even most, of the institutions stand in exactly the same positions in the two league tables. Individual institutions can feature quite differently in the two rankings. Most institutions are five to ten places higher in one table than in the other, but exceptional institutions can be treated radically differently in the two tables. The most extreme case is the University for the Creative Arts, which was ranked 70th by the *Independent*, but put in only 114th place by the *Times*, a difference of 44 places. Apart from the obvious fact that this kind of volatility seems to be most marked for the youngest institutions that do not have a track record, and therefore nobody

knows where they ‘should’ be in the league tables (the University for the Creative Arts was formed by the amalgamation of two pre-existing institutions, neither of which had featured in the league tables in the previous year), it also raises important questions about the appropriate response to league table positions by individual institutions.

The senior managers of institutions seem to take league table positions very seriously, becoming excited and proud when they gain twenty places, and becoming despondent and recriminatory when they drop twenty places. The evidence on whether league table places have a real effect on recruitment and financial sustainability is mixed, but there is little doubt that the link is real in the minds of university managers, and that policies specifically designed to move an institution up the league tables have been adopted, though not always with the desired results, as when institutions have appeared to be trying to manipulate student satisfaction surveys. But, when tables that are, overall and in general terms, statistically ‘the same’ can still accommodate changes in position of over 40 places, how much attention should managers pay to moving up or down twenty places in the league tables? I suspect that the analysis that follows should suggest that the answer, ‘Not much’, would be appropriate, but for the moment I will simply leave the question unanswered.

And finally, I need to provide one small disclaimer about the way that I have used the data. In the present analysis, I have used the data that the various compilers of the different league tables have published for each of the performance indicators. It is actually not possible to recreate from the published data, and applying the details published about the methodology, the final league tables exactly as published. There are good reasons for this. Most of the league tables that are constructed around the world include minor adjustments, the details of which are not published. The most obvious of such adjustments are ‘corrections’ to take into account differences in subject balance. So, for example, competition to enter medical school is very strong, and as a result entry requirements will be higher in a medical school than in many other faculties and departments. As a consequence, average entry requirements will be higher for universities with medical schools than for those without, simply due to the effect of the presence of a medical school. Other, similar, but perhaps less marked, differences will prevail in other subject areas. In order to take that into account, league table constructors will make minor adjustments that they deem too small to bother most people, or too technical for a general audience. Similarly, they will need to make fairly arbitrary decisions about how to act in the cases where data is missing, for perfectly legitimate reasons. Although these adjustments invariably move some institutions up the rankings and others down, and it is not always easy to see why, because the adjustments are not transparent, I take it these processes are undertaken for appropriate reasons and not with the intention of manipulating the league tables.

However, the fact remains that when I recalculate the rankings in a league table I do not obtain exactly the results that are published. For example, my own recalculation of the *Independent’s* league table differs from their published version. The two correlate strongly (Spearman’s rank order coefficient is greater than 0.98,

so the two are statistically ‘the same’), but there are differences that individual institutions would find significant. I trust that where I give figures that differ slightly from published values that I will be allowed some latitude and assumed to be acting in good faith also.

As noted above, I am going to use DEA to produce league tables for institutions in a way that takes into account the ability of institutions to turn inputs into outputs. Before doing that, however, I want to explain the concepts behind DEA. To my mind, the simplest way of grasping DEA is diagrammatically. The principle of DEA is quite straightforward, but can only be presented in a diagram for very simple cases. Consequently, my first analysis will be conducted with a limited set of data taken from the *Independent* league table; I am going to use three performance indicators, one input and two outputs. I am going to assume that ‘Staff Student Ratio’ is an indication of the resources that the university is putting into the educational process, and that it uses those resources to produce a teaching related output, as measured by the ‘Student Satisfaction’ score, and a research related output, as measured by the ‘Research Assessment’ score. I am going to use the raw data rather than an adjusted Z-score, because such adjustments are not necessary in DEA.

I have calculated a measure of how each institution produces outputs from its inputs, by dividing each output by the staff-student ratio. The results are shown in [Figure 5.1](#). Three straight lines have been added to the figure to enclose, or envelope, the data points. Only one institution stands out as having a high score on the measure of research output, and that is the University of Wales, Newport, which scored 63.36 on the Research Assessment indicator, and 100.32 on the Student Satisfaction indicator. The University of Wales Newport does not do particularly well on either of these scores when raw scores are considered, but since it has a poor staff-student ratio, it tends to come out better when one assesses the success with which it converts inputs into outputs. I have noticed that the University of Wales Newport, and other Welsh institutions, tend to do rather well in such analyses, perhaps reflecting the generally low level of resources provided in Wales when compared with other parts of the UK. In that sense, Welsh institutions seem to operate in the spirit of the motto that some of my colleagues keep on their office walls: “We have done so much, with so little, for so long, that now we can do absolutely anything with no resources at all”.

Similarly, the institution that has the highest score on the student satisfaction output measure had a score of 117.61. It is the University of Cumbria, which scored 38.04 on the research measure, and it sets the boundary at the top of the envelope. In fact, those three lines forming a convex shape around all of the data points are the data envelope of DEA.

One institution, London South Bank, gets very close to that envelope, but it is just inside the envelope. Had it scored slightly higher on either of the two scores it would have been ‘pushing at the boundary’ of performance, and an additional segment would have to be added to the envelope. But as it is, the line between University of Wales Newport and the University of Cumbria represents the best performance that we have on offer.

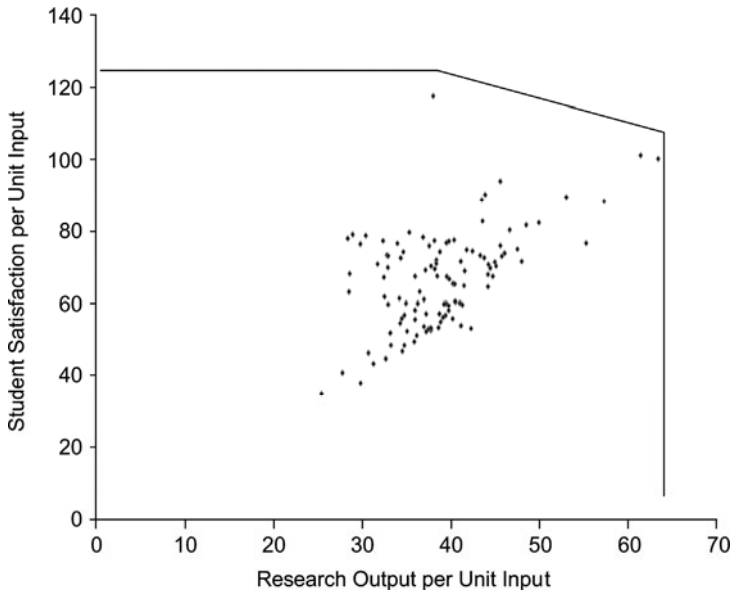


Figure 5.1. An Illustration of DEA.

DEA then assigns a score to each institution. That score is called the efficiency, because of the origins of DEA in the measurement of cost efficiency, but there seems no reason to suppose that ‘efficiency’ as measured by DEA has any necessary connection with the efficiency of the institutions, or of the staff in them, in any normally accepted sense. Institutions that lie on the envelope are given a score of 100. Other institutions are compared in terms of how close they come to the envelope, and are given a score which approaches 100 as they approach the envelope. In effect, in this case, each institution is compared with a fictitious creation, an ideal institution, which combines the properties of University Wales Newport and the University of Cumbria. However, that mythical standard will incorporate more features of University of Wales Newport for institutions towards the lower right part of the figure, and more of Cumbria for institutions towards the upper left. Thus, and this is a very important feature of DEA, each institution is compared with a standard that is appropriate for its current pattern of performance.

It should also be noted that the South Bank University was at the very bottom of the table as published by the *Independent*, which did not take into account the different functions of inputs and outputs, but merely produced a weighted average of all the indicators.

This example illustrates the way in which DEA operates, and a few features should be noted. All the institutions are compared on equal terms, in the sense that the same data about each institution is fed into the process. All the institutions are taking one input, in this very simplified model indicated by Staff-Student Ratio, and using that resource to generate two outputs, indicated crudely as Research and

Teaching. This defines a two dimensional space where one can imagine research-led institutions and teaching-led institutions spread out over the surface, with the teaching-led institutions stretching up towards the top of the graph and the research-led institutions stretching out towards the right of the graph. Hybrid institutions which combine teaching and research in some measure will fall somewhere in between. If one looks at the way in which the data points are scattered in [Figure 5.1](#), one can, perhaps, imagine that those two families of institutions, two trends in the data, can be seen. However, because there is diversity of missions among the institutions there is no clear-cut separation into two distinct clusters.

A high score on the teaching or research measure, or some combination of the two, then represents a specific kind of excellence. There is no absolute standard of excellence that is applied, but instead the actual institutions that are included in the analysis form the basis for the comparison, with those that are pushing the boundary of the data envelope acting as the standard to which other institutions might aspire. That does, or may, make the analysis sensitive to the actual institutions that are included or excluded, but it also means that the standards of comparison are realistic. It is a process that has a lot in common with the comparison of good practice.

Each institution which is not on the boundary is then assigned a score that indicates how close to the boundary it is. Another way of viewing this is to say that those institutions that are not pushing the boundary, but in which their research output is better than their teaching output, will be compared with that part of the boundary that is relevant to research-led institutions. In that sense, the process of DEA compares like with like. It takes appropriate comparators and creates a composite, ideal comparator, which has the same mix of activities, or one might say mission, as the actual institution under consideration, but produces the best imaginable performance that could be provided by the group of institutions that is being considered.

It is worth noting, however, that there is nothing deterministic in the policy process that is being considered here. The senior management team might well sit down and look at the outcomes of such a process. They have the data that shows, for example, that in the DEA framework, they have been considered to be a research-led institution, and compared with certain models among the most effective research-led universities. That might certainly give them an indication of where they might focus their attention if they wished to improve their performance as a research-led institution. However, they might equally come to the conclusion that their mistake was in shaping their mission around a research focus, and that they might, therefore, be better off making sure that they were effective as a teaching-led institution, or they might simply shift their focus slightly towards teaching. Nothing says that because DEA selects certain comparators for the purposes of comparison, that managers are obliged to accept those as the only appropriate comparators.

Finally it is worth comparing this policy related process with what happens with traditional league tables, where the managers reviewing the outcomes are not given

any serious policy choices, but are obliged, if they wish to move up the league table, to improve all the indicators. If a policy emphasis is decided in such a case it must necessarily be limited to choosing which of the various indicators are most amenable to improvement, and will have the largest effect in the overall rankings if improved.

The example given in [Figure 5.1](#), and the discussion related to it, is necessarily greatly simplified, because a model that involves only one input and two outputs is a long way from representing the complexity of any actual institution. However, this limitation is not imposed by DEA itself, but by my ability (or inability) to draw graphs in more than two dimensions, and my difficulty visualising the process in three or more dimensions. In theory, though, there is no limit to the number of inputs and outputs that can be considered. With more inputs or outputs the analysis cannot be represented on a two dimensional piece of paper, and there is the practical limit that, as the number of inputs and outputs increases, the likelihood also increases that the analysis simply shows that there are multiple different ways of excelling, and that each institution is excellent in its own way. While this is probably the soundest conclusion that one can come to when looking at diverse institutions, it is not very helpful in terms of benchmarking.

The original design of the *Independent* league table took nine different measures of institutional performance, and by adding them together with specific weightings managed to produce a league table that had Oxford and Cambridge at the top, and newer institutions towards the bottom. For the purposes of understanding the normal league table process better, it is worth pausing for a moment, and asking what assumptions we would have to make in a DEA analysis in order to produce a ranking that was similar to the standard league tables that we have come to expect from newspapers and similar sources. In fact, it is possible to produce a DEA result that resembles standard league table output fairly strongly, but only by making a number of striking assumptions. If we create a variable to represent inputs, and give it the same value for each and every institution, and count all the other variables as outputs, then we get a ranking which is fairly similar to the original *Independent* league table (Spearman rank coefficient of 0.75).

That is to say, the usual ranking of institutions can be produced in a DEA analysis if one assumes that inputs are not important, and that all institutions have equivalent provision (perhaps something like providing all the resources that institutions need to implement their strategic plan), and we treat any other performance as an indicator of output, and therefore to be maximised, whether it is entry requirements, Staff-Student Ratio, spending on buildings, or library resources. But such assumptions not only fly in the face of everything that we know about institutions, that the playing field is not even, and that governments sometimes deliberately focus resources on ‘centres of excellence’ for policy reasons, it does not even seem to be particularly desirable for policy reasons, where any possible performance measure can only be treated as an output. Take, for example, entry grades. If these have to be maximised, without any reference to any other variables at all, the policy implications are clear, leading to what might variously be described as ‘academic drift’, or the kind of catastrophic movement

upmarket which Christensen (1997) described when explaining why well-established companies nevertheless fail.

If, on the other hand, we take a more ‘realistic’ set of assumptions, and treat Staff-student Ratio, the Spend on Academic Services and the Spend on Facilities as inputs (as, no doubt, a government bureaucrat would), then we get a very different ranking. The complete listing produced using this second set of assumptions is given in Table 5.1. The Spearman rank order coefficient between the conventional ranking and the ranking that treats some performance indicators as inputs is -0.1, indicating no relationship between the two rankings at all. But as noted, there does seem to be a certain logic about counting spending and staffing as inputs to the process, and therefore quite distinct from research and teaching measures, grades in final exams and success in employment, all of which seem to be the desirable outcomes that higher education is supposed to produce.

Table 5.1. DEA ranking using 3 inputs and 6 outputs

Rank	Institution	Rank	Institution	Rank	Institution
1	University of the Arts, London	39	Kent	77	Buckinghamshire New
2	Bolton	40	Coventry	78	Sunderland
3	Cumbria	41	Birmingham	79	Sheffield Hallam
4	University of Wales, Newport	42	Manchester	80	Northumbria
5	London South Bank	43	Warwick	81	Edinburgh
6	University for the Creative Arts	44	Aston	82	Kingston
7	Bath Spa	45	Chichester	83	UWIC, Cardiff
8	Strathclyde	46	Aberystwyth	84	Roehampton
9	Queen Margaret	47	Edge Hill	85	Oxford
10	Glasgow Caledonian	48	Cardiff	86	Lancaster
11	Exeter	49	Teesside	87	Leicester
12	Leeds Metropolitan	50	Robert Gordon	88	Nottingham Trent
13	Goldsmiths College	51	Sheffield	89	York St John
14	Brighton	52	Newcastle	90	Bedfordshire
15	Durham	53	Cambridge	91	Glamorgan
16	Loughborough	54	Leeds	92	Huddersfield
17	London School of Economics	55	West of England, Bristol	93	Queen Mary
18	Bournemouth	56	Manchester Metropolitan	94	Derby
19	Bath	57	Heriot-Watt	95	Glyndwr
20	Middlesex	58	Salford	96	Birmingham City
21	Lincoln	59	Brunel	97	Swansea
22	Greenwich	60	Bristol	98	Southampton Solent

23	Edinburgh Napier	61	Nottingham	99	Keele
24	City	62	Queen's, Belfast	100	Ulster
25	East Anglia	63	York	101	Bradford
26	Oxford Brookes	64	Portsmouth	102	Wolverhampton
27	Chester	65	Liverpool John Moore's	103	Gloucestershire
28	Worcester	66	Abertay Dundee	104	Plymouth
29	Surrey	67	Royal Holloway	105	Hertfordshire
30	Canterbury Christ Church	68	Stirling	106	Imperial College
31	Bangor	69	Glasgow	107	Essex
32	Reading	70	Aberdeen	108	King's College London
33	Sussex	71	Central Lancashire	109	Liverpool
34	Lampeter	72	Southampton	110	Staffordshire
35	East London	73	Northampton	111	University College London
36	Westminster	74	De Montfort	112	Thames Valley
37	Hull	75	Dundee	113	SOAS
38	Winchester	76	St Andrews		

As illustrated by these examples, DEA, was designed for comparing units which had overlapping activities, but where the exact mix of activities was not identical in any two units. Examples might be supermarkets, that sell similar ranges of products, but where the demand for different items varies according to the location of the store, or factories manufacturing similar items, but where the exact mix of products depends upon demand. It would seem to be a technique ideally suited to the benchmarking of universities, which have similar coverage of a range of scholarly activities, but where the emphasis will change according to the mission of the institution. However, it would be disappointing if the answer were too simple. Anything as complex and as contested as a system of higher education should be analysed sensitively, with a feel for the fact that different agents, or stakeholders, may have a very different view of what the process is for. I have noted that a government bureaucrat might view expenditure on higher education as an input to the system, whereas the academic might see it as a result of successful bids for research funding and plans to broaden access. Different stakeholders may have very different ideas of what should be counted as an input, and what an output.

Indeed, previous research indicates that even individuals in the same stakeholder group, such as prospective students, may have very different opinions, with students who have obtained higher examination grades in high school being more inclined to see entry requirements as an output, while those who have struggled to achieve acceptable grades are more inclined to see them as an input. That is to say, those who have high grades are more likely to see a university's demand for high

grades as an indicator of the institution's status and reputation, and therefore an output that they think desirable. Those who have less high grades are more likely to see their grades as indicators of previous learning and effort to achieve a place, and therefore an input that they bring to the institution.

There are no clear-cut answers here. The taxpayer may think that a high staff-student ratio is an input that he or she provides to featherbed academics, while the new student may think that it represents investment in teaching resources, and therefore is a result, or outcome, that they think desirable.

Table 5.2. The top spending institutions

<i>Institution</i>	<i>Facilities Spend</i>
Hertfordshire	850
Durham	682
Aston	675
Cambridge	657
Buckinghamshire New	633
Oxford	587
Imperial College	575
Birmingham City	519

Consider [Table 5.2](#), which shows the institutions that were rated highest by the Independent in terms of their spending on facilities. But what does a large spend on facilities mean? Does it mean a glossy new, state-of-the-art learning environment on a rural campus, perhaps in Buckingham or Hatfield? In which case it might indicate an output. Or does it mean a struggle to keep up with crumbling infrastructure in established metropolitan areas, such as London or Birmingham? In which case it may be seen as an input. Or does it mean recurrent investment to maintain the glorious architectural fabric of a historic city, such as Oxford, Cambridge or Durham? In which case it might seem very worthwhile investment, but with almost no impact upon teaching and learning environments at all.

However, it is clear that DEA has the advantage over the methods currently used to compile league tables, that it raises the question of what are inputs and what are outputs in a very concrete way, and has the capacity to treat inputs and outputs differently. In the normal way of compiling league tables, all variables are treated the same, and simply weighted and added together.

The other great advantage of DEA is that it automatically compares like with like. For example, in [Table 5.1](#), eight institutions were given a score of 100 in the DEA analysis: the University of the Arts, Bolton, Cumbria, the University of Wales Newport, London South Bank, the University for the Creative Arts, Bath Spa and Strathclyde. Every other institution will have been compared with a composite, constructed from a mix of the qualities of those eight institutions so as to have a similar mix of activities as the institution being compared. Thus Goldsmiths College was compared with a composite of the University of the Arts and Bath Spa, in which the characteristics of Bath Spa predominated. On the other

hand, Middlesex was compared with a composite in which London South Bank predominated, with a light smattering of University of Wales Newport and the University of Cumbria, and so on, with each institution being compared with an appropriate comparator. This recognition of the variety of missions of different institutions is important, or all institutions are compared with a few pre-eminent universities, and found wanting, which is not very helpful for anybody.

INTERNATIONAL LEAGUE TABLES

International league tables of universities have, if anything, taken hold of the academic imagination to an even greater extent than national league tables. And like national league tables, their policy impact has been substantial, with several national ministries expressing the intention to make their university systems, or more of their universities, ‘world class’. What ‘world class’ might mean, or should mean, is a point that I will return to shortly. However, as soon as we start manipulating the data for universities across the globe, a number of points become clear, as I shall illustrate with data from the *Times Higher – QS* world ranking of universities (Times Higher, 2008).

First, as shown in [Figure 6.1](#), if we plot the Peer Review score against the International Staff score, we get a very different scatter plot than the ones produced with national data. With so many institutions scoring 100 on these two variables, distinguishing between the highest scoring institutions (which, presumably, is what this whole exercise is about) is going to be very difficult. In this case, DEA analysis is going to show, as [Figure 6.1](#) itself makes clear, that dozens of institutions lie on the data boundary. That is not necessarily a bad thing. It simply suggests that some of the data selected for use in these tables might not be appropriate, or might not be properly scaled, for the construction of league tables.

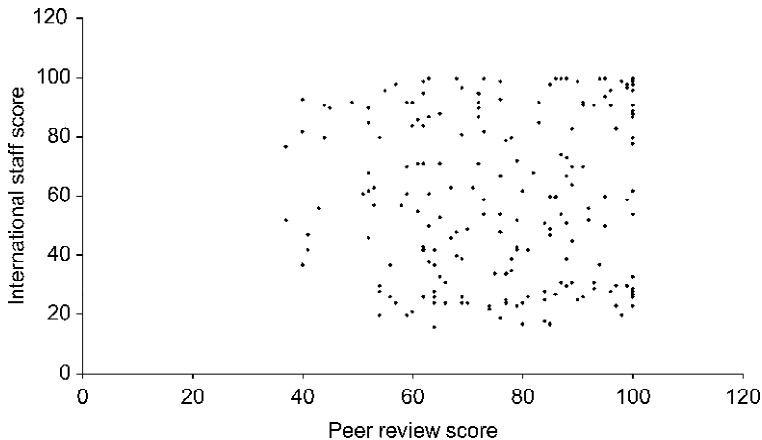


Figure 6.1. Plot of Peer Review Score v International Staff Score.

If we adjust those two output scores to take into account the staff-student ratio, by dividing both scores by the Staff/Student score (again on the basis that this is some kind of measure of inputs) then the result is shown in [Figure 6.2](#). Again, this looks nothing like the plots that were obtained with the national data, with one institution standing out from the crowd.

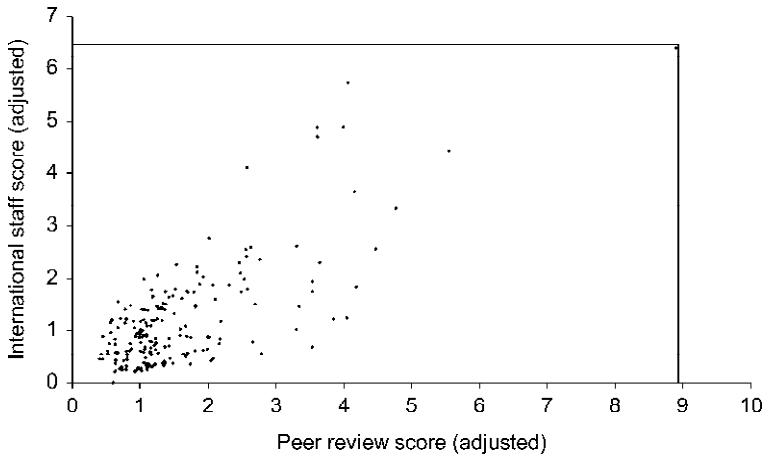


Figure 6.2. Peer Review and International Staff Scores adjusted for Student Staff Ratio.

That one institution is the University of Vienna. For some reason, the University of Vienna scores so poorly on the Student/Staff scores, that it makes their outputs look very impressive indeed. Of course, in this context, the data alone cannot tell us what that reason might be for the University of Vienna to be an outlier. It is possible that the data is being collected on a different basis in different countries, and that, as a result, the data is simply unreliable. But it is also possible that there are cultural and historic reasons why the data should represent systematically different things in different countries, and indicating that the whole project of producing world rankings is either much more difficult than it seems, or completely pointless.

In relation to the University of Vienna, there are two important differences between the traditions of continental Europe and those of the Anglo-Saxon world which would make this very singular result for an Austrian university explicable. In the first place, it has been usual practice in many continental European countries for teachers in the elite secondary schools (gymnasias) to work part time in a university while completing their studies for a higher degree. This made for much more fluidity of employment between those high schools and posts as junior members of faculty in the universities than is common in an Anglo-Saxon context. That might result in some disparities in how the members of staff are counted in different cultural contexts, and an unrealistically low figure for an institution in Europe.

The other major difference arises from different admission practices and patterns of attendance. Whereas, in Anglo-Saxon institutions, entry requirements are high, and the expectation was that all or most students who enrolled would complete the programme of study, in continental Europe the expectation was that every student who satisfactorily completed upper secondary school had the right to attend the university / course of their choice. This made for some very large, indeed unmanageably large, entry level classes, and high drop-out or cool-out rates. The idea that entry might be restricted to only those students who achieved the best marks, and that class sizes might legitimately be limited in order to maintain quality, came relatively late in many national systems of higher education in Europe. In any case, since fees were low, rarely more than a peppercorn, it made sense to drop in and drop out of courses of study, and to spread study over a longer time span. In that way students could compensate for poor quality experiences of lectures and seminars that were overcrowded, by private study, and drop back in the following year when they were better prepared to cope with difficult study conditions. I have even heard it suggested that the fees were so low, and the discounts for students in restaurants, shops and cinemas so good, that it made economic sense to enrol as a student, even if one had no intention of studying anything. All of these practices would lead to an unrealistically high figure for the number of students who were seriously following a course of study.

It is interesting to note that many of the 'quality indicators' that have been adopted in national league tables in the UK, US and Canada, and that are influencing notions of quality worldwide, run directly counter to this long-standing tradition of higher education; continuation rates, final qualification outcomes and proportion of students completing within a specified time have all been used as quality measures in the UK, but would have produced incomparably different figures for, say, a traditional English university and a traditional French one. Even future employment prospects do not have the same meaning for a part-time student who has a developing career alongside their studies, or who fits their studying and university teaching around each other in a mutually supporting way. But there is growing convergence in the notions of quality being applied, partly driven by the Bologna process and the creation of the European Space for Higher Education, and most national systems of higher education have moved towards a model that includes restricted or controlled entry to university, higher fees paid by the students, and an emphasis on reaching the level of bachelor's degree in a relatively short and specified time.

I do not know the details of the case of the University of Vienna, but if reform in Austria has been slightly slower than elsewhere, and/or the data have been collected by people who do not necessarily regard low student-staff ratios as being a desirable indicator, then it is not too difficult to see how the university became an outlier. But, above all, I have used this case as an exemplar, and developed it more fully than necessary, in order to illustrate the case that the numerical results used in league tables reflect a diversity of cultural practices,

but that the cultural practices may be hidden behind the numbers if we are not sensitive to the conceptual and philosophical issues involved. And although these issues arise most sharply in the international context, where the contrasts are more striking, they are not absent in national settings where different institutions may follow different traditions.

A simpler, and more concise, approach would simply be to exclude the University of Vienna from the analysis on the grounds that it is an outlier. The result of omitting that one institution is shown in [Figure 6.3](#). [Figures 6.2](#) and [6.3](#) also show the data envelope, and it can be seen from a comparison of the two that the removal of an outlier has a dramatic effect on a DEA analysis. Not only is the shape of the envelope changed, but the proximity of every institution to that boundary (and hence their DEA score) changes as a result of moving the envelope. DEA is particularly sensitive to the inclusion or exclusion of institutions that might form the data envelope. There are no statistical tests for the robustness of DEA, and the only way to check robustness is to check by including or excluding different institutions to see what impact they have on the results. While this may seem to be a serious drawback with DEA, the result, that we need to be cautious in interpreting results, is really no worse than a spurious confidence that comes from applying inappropriate statistical tests to data that is severely skewed, or in some other way fails to conform to the assumptions that are made about it.

Perhaps more importantly, the result suggests that the inclusion of irrelevant institutions in a benchmarking process can skew the results dramatically. Thus, if we were to consider a benchmarking process that was tailored to the needs of each individual, as I do in Chapter 9, it would be important to note that the inclusion of inappropriate comparators might have a dramatic impact on the outcomes. For example, if a prospective student was interested in deciding which institution they should apply to among those that offered a specific programme of study in Yorkshire, then the inclusion of an institution that did not offer that programme, or was in a distant part of the country, might have an impact on the relative scores of Leeds Metropolitan University and the University of Bradford even though the student had no interest in attending that comparator.

This recognition of the fact that the inclusion of irrelevant options may have an effect on the choices that are being made in other parts of the ranking system has overtones of Arrow's impossibility theorem in decision theory, which states that it is impossible to devise a system for ranking the collective preferences of a group of people that meets certain minimum standards, one of which is that preferences should not be affected by the inclusion of irrelevant options. (Turner, 2004: 147-9) Put crudely, if we were looking for a mechanism for ranking all the universities in a country so that the rank order satisfied the preferences of everyone in the country in some way, then it would be impossible to devise a voting system or other method that produced a definitive result, was not affected by the inclusion of irrelevant options, and was not dictated by an individual or minority group.

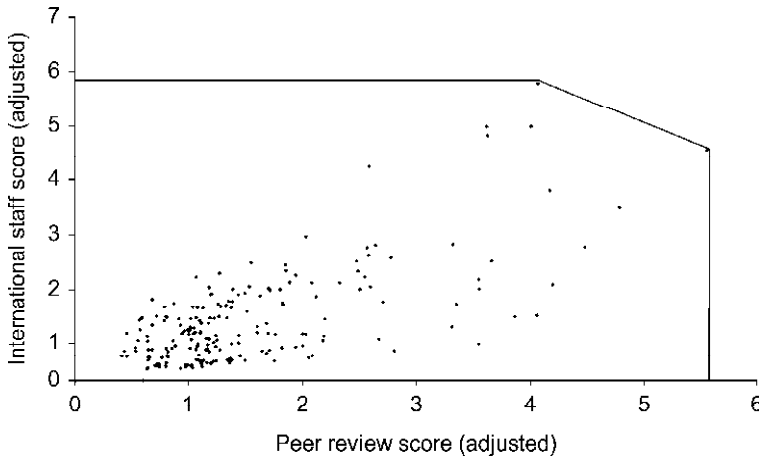


Figure 6.3. As Figure 6.2, but with the University of Vienna omitted.

The fact that DEA is affected by the inclusion of options that may be irrelevant for a specific purpose is an important reminder of the impact of Arrow's theorem in all areas of decision making. However, it raises the question of how it can be that, in league tables and rankings as commonly recognised, we do appear to have a mechanism for ranking institutions that is highly stable, and appears to be affected only marginally by the inclusion of new institutions. (In the case of the UK, since 1992, further institutions have been recognised as universities each year, and included in national league tables, without having much effect on the overall shape of the rankings. They do, however, have quite a dramatic effect on the DEA analysis, year on year.) In particular, it suggests that league tables as normally constructed, if interpreted as an embodiment of universal preferences that everybody can agree upon, must be violating one or more of the other restraints imposed by Arrow's theorem. It is possible, of course, that the league tables are distorted by the presence of irrelevant comparators. If, for example, one's purpose is to compare the universities of South Korea and Japan, then it may be that the presence of Harvard and CalTech in the international comparison (and in particular the need to ensure that the latter institutions are near the top of the table of comparisons) so distorts the process that any conclusions that depend on the lower reaches of the table are worthless. However, it is more likely that what we are looking at is the imposition of the prejudices and values of a small minority of journalists, researchers and publishers, many of whom will have attended established universities, and who, unconsciously and with the best will in the world simply assume that established reputation among people like them is the ultimate test of the quality of a higher education institution.

Moving on to the DEA proper, I employ the same method as I did in the case of case of national league tables, and demonstrate that the league table as

published is similar to the one produced by assuming the costs of each institution is the same, and that all of the indicators measure outputs. I stress this point because it seems to me to go to the heart of one of the advantages of DEA, namely that it treats inputs and outputs differently. While it may be very difficult to reach a consensus between different stakeholders as to what should be counted as an input and what should be counted as an output, there is universal agreement that the performance indicators used do not all measure the same kind of thing. The standard way of constructing league tables has only one way of dealing with any indicator, namely weighting it (including the possibility of a negative weighting) and adding it to the aggregate measure of quality. DEA offers a substantial improvement over that by offering two different ways of categorising performance indicators, as inputs or outputs.

(Actually, the software that I am using throughout these DEA analyses, Frontier Analysis Professional by Banxia Software (2003), incorporates three ways of handling variables: controlled input, uncontrolled input and output. It is presumed that the purpose of DEA is to manage a process whereby, by judicious manipulation of inputs, outputs can be optimised. However, it is also assumed that some inputs cannot be controlled, are features of the natural environment, as it were, and represent constraints that policy choices have to work around. That is a distinction that I have currently left to one side in the context of national and international comparisons, but it is clearly a distinction that might interest institutional managers working within a context of national policy. Incidentally, the software also makes it very easy to include or omit specific cases from the analysis, in order to conduct exactly the kind of sensitivity experiments outlined above.)

In this case, using a dummy input which is the same for all institutions, and treating all the quoted performance indicators as outputs, produces a ranking which strongly resembles the results produced and published by the league table constructors (Spearman Rank Order Coefficient in excess of 0.7). However, as predicted from [Figure 6.1](#), DEA gave no fewer than 47 of these ‘top 200’ institutions a score of 100, indicating that they were on the data envelope. In many ways that seems just, given the obvious grouping in [Figure 6.1](#) at the envelope, but it does not make very dramatic news reporting.

Now taking the staff-student score as an input, and all the other indicators as measures of output, and running DEA again, the result, as predicted from [Figure 6.2](#), is that only the University of Vienna scores 100 as lying on the envelope, and the performance of all other institutions is compared to its performance. If we once more exclude the University of Vienna on the grounds that it is simply inexplicable why it should have a staff-student score so low that it dominates all aspects of the analysis, we obtain a much more nuanced ranking. The University of Cape Town, Macquarie University and the University of Toronto each gain a score of 100, as being on the data envelope and setting the standards by which other institutions should be judged. Since none of those institutions was particularly distinguished in the original league table, with the University of Toronto only achieving 42nd place, and the other two languishing at

the bottom of the top 200, it is worth comparing their results with other institutions that fared much better in the published results. Some comparisons are shown in Table 6.1.

Several features are now quite noticeable. The University of Toronto has a very similar profile to the institutions in the top ten, except that it has a low Staff/Student Score, and it has a low International Student Score. Indeed, the fact that it is a lean and efficient institution is actually counting against it in the way that the original table was computed. All the institutions in the top of the table have a high Staff/Student Score, and the position of our three 'DEA stars' is brought about primarily by the adjustment for the difference in staffing levels. Moreover, in the original table, this performance indicator was weighted so as to account for twenty per cent of the overall total score, so this was an important measure.

The fact that the University of Cape Town and Macquarie University have very different profiles is to be expected, because DEA picks out those institutions that excel in different ways. Once adjusted for Staff/Student Score, the University of Cape Town has the highest score in relation to International Staff. Even before adjustment, its International Staff Score is very respectable. An institution with a high reputation, which acts as a regional centre for higher learning for most of Sub-Saharan Africa, in a beautiful setting, in a cosmopolitan city, the University of Cape Town is able to attract eminent scholars from all over the world.

Similarly, Macquarie University has a respectable International Student Score (in fact the maximum possible) even before adjustment. Again, Australia has acted as a regional centre for higher learning, and this has been promoted by government policy. Students from all over the Pacific region seek high quality education in Australia.

It should be noted, however that each of these indicators only accounts for five per cent of the total overall score in the original league table, and therefore no amount of international engagement on the campus can compensate for lack of international recognition and esteem. These different profiles, and the importance attached to them, are echoed in the original top ten, where University College London and Imperial College London both have a maximum score for a cosmopolitan student body, but are kept out of the top spots by American institutions.

This raises important questions about what it means to be a 'world class' university. There are clearly competing definitions here, although in the league table as published any possible conflict is overcome by attaching vanishingly small importance to one of the possible definitions.

As defined by the *Times Higher* – QS, fifty per cent of what is involved in being a world class university is reputation; forty per cent due to reputation among other academics and ten per cent among those who are likely to employ university graduates. That raises yet more questions about what it means to be a world class employer in these days of globalisation. Presumably, however, such recruiters are working for legal and management firms, and are quite likely to

Table 6.1. Results of DEA

Original Rank for 2008	Institution	Country	Peer Review Score	Employer Review Score	Staff/Student Score	Citations/Staff Score	International Staff Score	International Student Score	Overall Score	Adjusted Peer Review Score	Adjusted Employer Review Score	Adjusted Citations/Staff Score	Adjusted International Staff Score	Adjusted International Student Score
1	Harvard University	US	100	100	96	100	87	81	100	1.0	1.0	1.0	0.9	0.8
2	Yale University	US	100	100	100	98	89	71	99.8	1.0	1.0	1.0	0.9	0.7
3	University of Cambridge	UK	100	100	99	89	98	95	99.5	1.0	1.0	0.9	1.0	1.0
4	University of Oxford	UK	100	100	100	85	96	96	98.9	1.0	1.0	0.9	1.0	1.0
5	California Institute of Technology	US	100	74	98	100	100	93	98.6	1.0	0.8	1.0	1.0	0.9
6	Imperial College London	UK	99	100	100	83	98	100	98.4	1.0	1.0	0.8	1.0	1.0
7	University College London	UK	96	99	100	89	96	100	98.1	1.0	1.0	0.9	1.0	1.0
8	University of Chicago	US	100	99	98	91	78	83	98	1.0	1.0	0.9	0.8	0.8
9	Massachusetts Institute of Technology	US	100	100	90	100	33	94	96.7	1.1	1.1	1.1	0.4	1.0
10	Columbia University	US	100	99	98	94	29	89	96.3	1.0	1.0	1.0	0.3	0.9
41	University of Toronto	Canada	100	94	18	100	80	46	81.1	5.6	5.2	5.6	4.4	2.6
179	University of Cape Town	South Africa	61	66	15	68	86	82	57.4	4.1	4.4	4.5	5.7	5.5
182	Macquarie University	Australia	65	87	18	41	88	100	57.1	3.6	4.8	2.3	4.9	5.6

have graduated from ‘top’ institutions themselves: “QS asks major global and national employers across the public and private sectors which universities they like to hire from. This year’s sample includes 1,471 people, with 43 per cent in the Americas, 32 per cent in Europe and 25 per cent in Asia-Pacific” (Ince, 2007: 7). That could possibly explain any leaning that the table might have to North America and Europe.

World class reputation might well be correlated with a conceptually distinct notion of a world class university, namely one that produces research which is cutting edge or world-leading. In the league table under review here the performance indicator chosen to capture this second sense of world class university is the number of citations per member of staff. The presumption is that, if scholars around the world are finding it necessary to cite work produced in a particular university, then that must be an indication of the quality of the research. There are a number of problems with such citation counts, not least of which are that simple citation measures take no account of whether the critical opinion of the citing author is positive or negative, that they give credit to the author’s current institution and not necessarily the one where he or she did the original work, and that citations build up and reach peaks on very different time scales in different disciplines and are therefore not comparable. However, notwithstanding those difficulties, there can be little doubt that they are being used here as an indicator of the quality of research output.

A third definition of a world class university, already discussed in the case of the University of Cape Town which is a good example, is the university that can attract first class researchers from around the world.

And a fourth definition is a university that can attract a cosmopolitan student body from around the world to study. That is probably as close as we come in the *Times Higher* – QS league table to a measure of teaching quality, since presumably it would be difficult to continue to attract such a diverse student body to an institution that had a reputation for being uncaring and/or unsupportive, although it is by no means certain that such a reputation would spread to those who needed to have the information in order to choose where to study.

There are doubtless other definitions of ‘world class’, including the one that is implied in the published league table, namely a world class ability to consume resources and appoint staff without regard for the consequences. But even within a single definition there may be cultural or contextual differences that mean that the same indicator measures something different in different cases. Consider the cases of the National University of Singapore, which scored the maximum for International Staff Score and International Student Score but only reached thirtieth place in the table. An important institution in a tiny country that has strong ethnic and cultural links with many other populations in the region, a maximum score on both of these indicators seems almost a ‘natural’ outcome of the historical and geographic context. Does a maximum score of 100 for the International Student Score have the same meaning as in Macquarie University, were a diverse student population is brought together by national policy and aggressive marketing? Does a

maximum score of 100 for the International Staff Score mean the same as in the London School of Economics?

Very clearly, with a few notable exceptions, institutions in the USA score low on the internationalisation dimension of world class; with such a large population to draw on, and with such large distances involved, US institutions can draw upon a huge pool of talent without ever looking beyond their own national borders. Small systems of higher education, notably Singapore, Switzerland and Hong Kong, draw staff from further afield. It is also apparent that this pattern of drawing staff from an international recruitment pool is more characteristic of institutions of technology.

US News and World Report also publishes a world ranking of universities which, according to their website is “based on the *Times Higher Education* – QS World University Rankings” (US News, 2009). However, I could identify no differences between those rankings and the ones I have discussed here, so there is not much point in examining the similarities and differences between competing league tables in this context.

Another world ranking of universities which has achieved increasing recognition in recent years is the league table published by Shanghai Jiao Tong University, which has established a Center for World-Class Universities in their Graduate School of Education (Shanghai Jiao Tong University, 2008). The Jiao Tong world university ranking has two overwhelmingly positive features when compared with other league tables; it has the minimum of non-transparent adjustments to scores so that if one takes the original raw data as published and recalculates the rankings on the basis of the published methodology, then the result is exactly the ranking as published, and the league table is clear about the focus of quality, and places unashamed emphasis upon the measures that indicate research output that is highly regarded by the academic establishment.

Given the former characteristic, the table compilers show an odd coyness about publishing their full results. Their table of world class universities includes the ‘top’ 500 institutions, but they publish the weighted total of performance indicators for only the first 100 institutions, and thereafter group institutions into bands of fifty and then one hundred institutions. This is the same strategy as was employed by *US News and World Report* in relation to the national table that they publish, but it is harder to work out why it is done in this case. Anybody can download the full data set in a format suitable for a spread sheet from the website, and with a few calculations, following the method given on the website, the full list of scores can easily be reconstructed. There is, however, perhaps more reason to be cautious about interpreting small differences in score as one moves down the league table.

Half of the weighted average is awarded for feats that are very unusual, such as the number of alumni and staff being awarded Nobel Prizes or Fields Medals, or publishing in *Nature* or *Science*. There have only ever been just over 800 Nobel Prizes awarded, 20 to organisations and 789 to individuals (Nobel Foundation, 2009). Fewer than 50 Fields Medals have been awarded. It follows that this half of

the weighted result can depend upon only a handful of people at even the strongest of institutions.

Most of the remaining weighted total is given for activities that are less rarefied, but nevertheless focus on the quality of the research outputs of members of staff, depending on citations and the authoring of articles that appear in the Science Citation and Social Science Citation Indexes. The remaining ten per cent of the score is given for a weighted total of the other indicators, adjusted for the size of the institution, to indicate how productive the institution is per capita. No other indicators are used. So it is clear that a definition of 'world-class' that focuses on the production of high quality research output is being given prominence in this table.

On the face of it, then, the Shanghai Jiao Tong rankings are constructed on a quite different basis from those of the *Times Higher* – QS. While the former depend on measures of high status research for at least half of their weighted score, the latter use measures that indicate the status of the institutions in the eyes of professionals closely related to academia. Again, it cannot be stressed too often what a very narrow range of high status research the Jiao Tong rankings depend on; having even a single member of faculty who was a Nobel laureate would have a significant impact on an institution's position, although whether the person concerned has to be a member of faculty at the time of the award, or can be bought in after the event, is unclear from the details of the methodology published on the website. In contrast with that, the *Times Higher* – QS rankings attempt to take the broadest possible sampling of opinion across all continents. Although that effort is doubtless constrained by resources, the 2007 rankings included the judgements of over 6,000 respondents.

Notwithstanding those differences, and other technical differences between the rankings which make it difficult to compare the two rankings directly, the two rankings look startlingly familiar. (Shanghai Jiao Tong rate many medical centres separately from their parent institutions, for example, whereas it is not clear from the *Times Higher* – QS table how they treat those centres, although it seems likely that they are included with the ranking of the parent institution overall. Similarly, some groupings of institutions, such as the University of California system, are not divided in the same way in the two tables.) Both tables have Harvard, Yale, Stanford, Cambridge and Oxford near the top, while the ranking maintains the pecking order that one would expect to find in the corresponding national league table. Those UK institutions that appear are those that come near the top of the league tables that are published by the *Times*, *Guardian* and *Independent*; Bristol, Edinburgh, Durham, Manchester and Newcastle all feature near the top. Similarly, Japanese institutions appear in a characteristic and hierarchical pattern that will be familiar to scholars who know the system, with Tokyo and Kyoto Universities at the top, followed by Nagoya, Hokkaido, Hiroshima and Waseda.

What systematic differences there are between the two tables point to the difficulties of constructing such league tables on a cross cultural basis. Having an emphasis on medicine or the physical sciences confers a huge advantage on institutions in the Jiao Tong tables, which arises from the choice of Nobel prizes as an indicator, Nobel prizes themselves having an unequal distribution across the disciplines. The *Times Higher* –

QS table treats francophone institutions, and others that do not use English as the primary medium of instruction, rather more favourably than the Jiao Tong table. But again, that can be readily understood in terms of the use of reputation, which can relatively easily cross language barriers, compared with citation counts in indexes that focus on English language publications. These differences arise from distinct cultures, whether language based, nation based, or discipline based, that can also be seen reflected in the national league tables, although the extent of variation is clearly much greater than in the case of national comparisons.

Notwithstanding all of those differences in detail between the two tables, 334 institutions that appear in the Jiao Tong top 500 institutions also appear in the *Times Higher – QS* top 400. Picking out only those institutions, and creating a ranking of those 334 institutions depending on where they come in the league tables, and ranking them from 1 to 334, produces a new ranking. The Spearman Rank Order coefficient of those two scales is 0.68, showing a very strong correlation. Great caution needs to be exercised in interpreting this figure. Since it clearly ignores the institutions that appeared in one table but not in the other, it ignores those cases where the divergence between the two tables was the greatest, and will therefore be an overestimate of the correlation.

Many of those institutions were medical centres which appeared in the Jiao Tong table but not in the *Times Higher – QS* table, as discussed above. In addition, fewer than 30 institutions that Jiao Tong ranked between 400 and 500 appear among those 334 institutions. For the most part, therefore, we are looking at a correlation between over 300 of the institutions that appeared in the top 400 of the two tables. The statistical problems may therefore not be quite as severe as it appears initially.

On the other hand, the task faced by the compilers at Jiao Tong and the *Times Higher – QS* was not to rank a predetermined group of 334 institutions. Their task was to select the ‘best’ institutions from a pool of literally thousands of candidates, a task with many more degrees of freedom than ranking a preselected group. In that sense, the Spearman Rank Order coefficient may seriously underestimate the coincidence of those two rankings.

For those reasons, I would not wish to attach any particular significance to the actual number produced by a comparison of the two rankings, but offer it only as qualitative evidence, such as it is, that there are strong similarities between the two sets of outcomes, in spite of the quite marked differences in underlying approach to the indicators chosen. Those who are less inclined to trust statistical methods can cast their eye over the original tables, and will probably form a similar impression; the same institutions turn up in roughly the same position on both.

While on the subject of constructing league tables out of the pool of thousands of institutions available, I have noted elsewhere that when a DEA analysis is made of any national system, a few unexpected institutions come to the top. One of the reasons for this is that DEA can accommodate many different dimensions of excellence, including teaching quality and the appreciation of the student body. As a result, a large, relatively young institution, specialising in the teaching mission of higher education normally comes to the top, joining institutions that have solid

research reputations on the usual measures, but excluding those that normally top the charts, which move down the rankings when resources are taken into account. A DEA analysis, therefore, gives credit to a number of institutions that would not reach the top of their national table in normal circumstances. Consequently, there is not much purpose in devoting a lot of time to a DEA analysis of the international league tables, as these are composed of institutions that dominate the national tables as normally conceived. They therefore exclude a number of institutions which would undoubtedly do well in a DEA analysis, and DEA is very sensitive to the inclusion or exclusion of key institutions, namely those that form the data envelope.

So, apparently fortuitously, league tables come to resemble each other, even when they appear to be trying to do something different. In the context of national league tables it was noted that the addition of a 'value added' element had little effect on the overall look of a table, because the measure chosen was very strongly correlated with measures already in the mix. Similarly, measures of the highest levels of research achievement correlate very strongly with measures of reputation among employers. Perhaps that is not surprising, if employers gain an impressionistic sense of the performance of institutions from the stories about research that reach the press. And when an indicator does have the potential for producing a radically different sense of what a world class university is, such as a measure of the internationalism of the student body, then it is included, if at all, with a very low weighting.

I am not suggesting that there is any kind of conspiracy here. I am suggesting that we all think that we know which are the best institutions and which are not so good. A league table is seen as legitimate to the extent that it confirms those prejudices. And then the legitimacy of a new league table, or a new edition of an old league table, will be judged according to whether it agrees with other league tables, which crystallised and made concrete our original prejudices. So that, while it may cause a slight flurry of excitement at a specific institution if it goes up or down twenty places in the rankings, or if it rises above or falls below a local rival institution, in the end we know that nothing is ever really going to change in the hierarchy of prestige that is reflected in the league tables.

Perhaps of greater concern, it would appear that the main readers of league tables are academics, concerned about the status of the institution or department where they work. This produces a cycle, whereby the tables help to reinforce the prejudices that they developed. What were once unsubstantiated prejudices become, in the process, reasonable judgements on the basis of league table results. If academic administrators then use that 'evidence' as the basis for strategic decision making in institutions, we have to wonder where it will all end up.

There is a possible dynamic here, with all institutions wishing to move up the league tables so that they can attract the more capable students. The more capable students then use the league tables to select the institutions that fare best (although the evidence that they have actually started doing this is weak). This promotes a move up-market, following the students who are easiest to teach and most likely to be successful.

In *The Innovator's Dilemma*, Christensen describes a similar dynamic in which established companies continually follow their customers up-market, thereby unintentionally opening up a gap at the bottom of the market where new technologies can be introduced, field tested, and eventually undercut the established firms on their own ground. An excessive reliance on self-perpetuating quality measures poses the risk of a similar development in higher education. We can only hope that the consequences are not too dire.

CHAPTER 7

THE ECONOMICS OF HIGHER EDUCATION

The economics of higher education is intimately linked with the quality of higher education, and not only because the quality of the education provided by an institution, or reputed to be provided by an institution, will affect the income of that institution, whether by market mechanisms or by formula funding from government. The economics of higher education forces us to consider different aspect of the quality of education, not just whether it is high quality or low quality, but what sort of a thing it is altogether. Is it a public good, or a private good? Is spending on education consumption, or investment? Is the allocation of resources inside the system of higher education optimal? And so on.

But in some ways the world of economics is even more curious than the one that Alice found herself in (Carroll, 1865), or indeed the one Mr Tompkins found himself in (Gamow, 1946). Graduates of higher education are paid more, in general, than their counterparts who leave upper secondary school or high school with the same qualifications but do not go on to higher education. This is because they are more productive, as a result of having been to university. And how do we know they are more productive? Well they must be more productive, because otherwise employers would not be prepared to pay them more. Wandering into this kind of circular argument can sometimes produce a feeling of giddiness, but what has to be remembered is that the world of economics is not the real world. Rather, it is a way of looking at the world to try and make sense out of it, by focusing on certain aspects. So it does no good to ask whether the additional pay graduates earn is a fair reward for their increased productivity, because there is no other way of measuring the value that education adds. (However, not all economists agree that this is the only way of looking at increased earnings for graduates, and I will return to this point shortly.)

So, first of all, the cost of education is very much higher than we normally think. In economic terms, the 'cost' is not just the tuition fee, but includes all of the living costs and expenses incurred while studying. Not only that, but the economist also includes all of the income that a person has forgone because they are studying and not going out to work. In fact, during ten years of compulsory schooling, when my parents could not send me out to sweep chimneys, mine for coal or tie threads in a cotton mill, that represented a fairly major loss of income. Or, at least, it would have represented a major loss of income, if it had not been illegal for children under 15 to work at all. So we can see why reform of child labour laws is often coupled with the introduction of compulsory schooling; it reduces the cost of education for the parents. It may not be much comfort to those parents that they are not losing any forgone income, because their children would not be allowed to earn

anything anyway, but this is a small illustration of how economists look at the world, and how, sometimes, that view can help us to bring diverse elements together and make sense of them.

If the bad news is that education is more expensive than we expected, the good news is that it is the best investment that a person can make. The private return on investment in education is greater than the return that could be earned in any other way. That is to say, for every dollar or pound a person invests in their own education, they can expect to earn many more over the course of their lifetime. And this, of course, raises the question of why everybody is not in education. How can anyone afford not to continue their higher education to completion?

There are three kinds of answer to this question. The first is that nobody *can* afford not to go to education, but that those who do not continue are misinformed, or not very good at making rational decisions. I have commented on this kind of approach elsewhere, and it seems to me to be a mistake to say that the theory is correct, the problem is with the people who do not understand it (Turner, 2007: 158). I would prefer to think that our job as social scientists is to understand why this decision works for the people who make it. A second approach is to say that money is not everything. Certainly, it costs thousands of dollars and pounds to put yourself (or your child) through university, but it also costs hundreds of hours in educational institutions, and for some people that may be a price that is even higher than dollars and pounds. And that is simply a recognition that there are limits to what an abstract analysis, like economics, can tell us.

And the third approach is to point to a technical difficulty with the economics of education, that it becomes very difficult to calculate a rate of return when everybody is doing something. Take, for example, primary education. If we want to calculate the rate of return on primary education, we need to compare those who complete primary education with those who do not enter primary education. In industrialised countries, it is extremely difficult to find children who do not attend primary school, so the calculation is difficult to perform in any realistic way, and the rate of return on primary education is undefined, or zero. Similarly, if we were to approach universal higher education, the rate of return on higher education would become meaningless. I think that we are currently far enough away from universal higher education to suggest that this is not a factor stopping anybody from attending.

So it remains a question that is open to investigation as to why many people choose not to engage in higher education when it is such a lucrative course of action. The prime candidate in terms of an explanation is that those people who do not enter university, disproportionately from poorer economic backgrounds and disadvantaged groups, have different values, and in particular that they take a different view of risk and debt which effectively increases the cost of education for them. Work in this area needs to continue, as we see no immediate end to the increase in enrolments in higher education around the globe, and there are extremely important issues of social justice here. But the lesson to take away from here, first and foremost, is that with private rates of return of between 6 and 18 per cent in most OECD countries (OECD, 2008: Table A10.1) higher education looks a better private investment than anything else.

Not only is the rate of return to the individual concerned very attractive, so is the public rate of return on investment. Some years ago I was tempted to enter a university in New York to try and find out about their funding arrangements. The experience was delightful, because I had an insight into the finances of the institution which the finance department of institutions where I have worked in the UK would never contemplate providing. But one of the things that has remained with me, quite literally, is a booklet that set out why investing money in the university was such a good idea for the city of New York. Graduates, as has been noted, would earn more, and be more productive in the economy. But even before they graduated, they had to live somewhere near the institution, and eat. And so did their professors. So the university was injecting huge amounts of money into the local economy, and since money, once spent in the economy gets spent again and re-circulated, there was a multiplier effect, which meant that every dollar spent by a member of the university produced three dollars' worth of activity in the local economy. And all of that activity was taxed, as were the higher earnings of graduates who stayed on to work in the area. And that is not counting the additional economic activity they stimulated by being captains of industry, or technological innovators or active entrepreneurs. The bottom line was that for every dollar the taxpayers put in, they were going to get three out.

You may be sceptical about the overall figures, or think that the university was presenting them to its own advantage, which it undoubtedly was, but the fact remains that a university is probably the second best stimulus that you can have to a local economy, and most people would rather live near a university than an airport. From a rather more objective viewpoint, the OECD calculate that the public rate of return on higher education is also high, if not quite as high as the private rate of return (OECD, 2008: Table 10.5).

The fact that private rates of return are normally higher than public rates of return for higher education has led many, notably the OECD, to argue that individuals should be obliged to bear a larger share of the cost of higher education: "At the tertiary level, high private returns in the form of better employment and income opportunities (see Indicator A9) suggest that a greater contribution by individuals and other private entities to the costs of tertiary education may be justified..." (OECD, 2008: 247). However, there is no necessary connection between return on investment and the desirable share of expenditure, as can be seen in two parallel examples. In a cholera outbreak, those who actually fall ill with the disease are going to benefit most from hospital treatment, therefore the burden of paying for controlling an epidemic should be borne primarily by the sick. In an urban area, those who will benefit most from an efficient police force are the victims of crime, and consequently the victims of crime should bear the main burden of financing the police force. I think that such approaches would be regarded as barbaric in most civilizations. The flaw in the argument is that absence of disease and absence of crime, like the absence of ignorance, are public goods.

Of course, for the economist 'public goods' has a very precise meaning and should not be confused with less tightly defined concepts such as public interest or the will of the people. A public good is one where the benefit cannot be limited to

the person who consumes it. As Stiglitz (1999: 308) put it: “A public good has two critical properties: non-rivalrous consumption – the consumption of one individual does not detract from that of another – and non-excludability – it is difficult if not impossible to exclude an individual from enjoying the good”.

Stiglitz argues that because my knowledge is not diminished when you learn something that I know (non-rivalrous consumption) and because I cannot stop you learning something that I know, even if I do not feel obliged to teach you it (non-excludability), then knowledge is a public good. He goes on to argue that, as a consequence, the marginal cost of you having that knowledge (as opposed to the marginal cost of you acquiring that knowledge) is zero. And on planet economics, that means that the price must be zero. I cannot charge you a dollar for an explanation of what a public good is, because if you were prepared to pay me a dollar it would be in the interest of another trader to undercut my price and sell it to you for fifty cents, or twenty cents, and so on. Since Stiglitz is an economist, he understands this already, and has made his explanation available on the Internet for nothing. I am going to charge you for my time and effort in passing that information on, for the paper this book is printed on, for the distribution costs, and so on. That does not, Stiglitz argues, negate his point that I cannot actually charge you for the knowledge.

The fact that the price of knowledge must be zero means that there is no incentive for anybody to create knowledge, or distribute knowledge. In fact, there is no incentive to be creative at all. And that obviously has some social disadvantages. As a result, governments manipulate the markets for the dissemination of ideas, normally with copyright or patent structures, that make it possible for the creator or inventor of an idea to derive private benefit for a limited time.

Without government intervention, leaving the matter entirely to the rational decisions of many private investors, investment in public goods would always be suboptimal. Indeed, that is one of the main economic arguments for central government; the economic role of central government is to invest money on behalf of the population as a whole to ensure that levels of investment are optimal, and to create a system of taxation to ensure that the costs of that investment are spread equitably across all citizens. Without such intervention, individuals would not of their own accord invest enough money in health care, education or public order. They would invest something, but not enough. This makes the argument that private funding should replace public funding odd, to say the least.

Marginson (2009) has stressed the peculiarity of so-called ‘markets’ in higher education. He observes that in no country does the student pay the full price for undergraduate education, and the government also carries the cost of approximately 95 per cent of research carried out in universities, even after decades of trying to shift the burden of higher education onto the private sector. But the fact that knowledge is a public good is not by any means the only economic peculiarity of higher education. The failure of market theory to describe the operation of universities is exacerbated by some other qualities of higher education.

This is not a question of those who are not economists criticising the assumptions of those who are not economists. There is not agreement among

economists about exactly how education behaves in an economic sense. Classical economic theory, as noted above, states that education increases the productivity of a worker. That person, by developing skills and acquiring knowledge becomes a more effective person, and when employed will be more productive in the work process. In response to that increased productivity, employers are prepared to pay more, because a worker who has been educated for longer will contribute more to the profitability of the firm that employs him or her. Incidentally, that increased productivity will also add to the general wealth of society, and at least part of it may therefore be considered to be a public good. As a result, society at large might be positively disposed to encouraging the employer who uses more graduates, and thereby increases the efficiency of production and reduces waste.

An alternative view has been developed by Nobel laureate Michael Spence. The scenario that Spence draws for us can be described in the following terms. Education adds nothing at all to the graduate. There are in the world people who you would want to employ, and those who you would not. The people that you would want to employ are able to wake up every morning when the alarm clock rings, get themselves ready promptly, and get themselves to work come rain or shine. They are then able to tolerate eight hours of pointless tedium, before going home in the evening. As luck would have it, those are exactly the qualities which make one likely to be successful in the formal education system. Consequently, 'good employees', those that you would wish to employ, can achieve success in education with less effort than 'bad employees'. Good employees therefore attend educational institutions, and collect certificates, in order to signal to prospective employers that they have the qualities the employer is looking for. All that is necessary for this to work is that, by choosing to employ only graduates, employers are increasing the probability that they have selected good employees. This system is of private benefit to both the employers, who increase their chance of hiring the employees they want, and good employees, who can collect the qualifications more cheaply than other employees, and therefore improve their prospects at below average cost.

From the public perspective, however, education has contributed nothing to the overall productivity of the system, having merely improved the employee selection process. Such education should therefore be considered a private good, and undeserving of public subsidy. This approach, called signalling theory, therefore rehabilitates the notion of education as a private good, and can therefore be seen as an additional reason why it should be funded from private investment.

Of course, it is not strictly necessary do choose between the classical view and the view of signalling theory. Both effects could be going on at the same time, with education contributing something to an increase in efficiency, but not as much as might be calculated from the income differential in favour of graduates.

Similarly, higher education differs from the goods described in classical economics, in the sense that when there is a shortage of goods, the price should rise, and producers will be induced to produce more, until equilibrium is again restored. However, the supply of higher education seems to bear little relationship with the price. The expansion of higher education systems has proceeded largely at

the behest of government, or in response to the input of public money. This cannot be regarded as a classical market. At the same time, high prestige suppliers have not expanded, even though they could, and in doing so could increase their profits. This behaviour is typical of suppliers of what are described as positional goods, or goods which owe their value to the fact that they are provided for the elite, and are more sought after than the products of competitors. Thus the value of a degree from Harvard owes at least something to the fact that there is a limited supply of the product, and that students compete to get into Harvard.

In extreme cases, the demand for positional goods may actually increase when the price increases – the more exclusive they become, the more attractive they become. Such goods, called ‘Veblen goods’ in honour of Thorstein Veblen who first reported the phenomenon of conspicuous consumption, include such products as luxury cars, fashion products, and places at prestigious universities.

One can see considerable scope here for disruptions to classical market theory, or what ordinary mortals would call the ‘obvious’ market mechanisms. Applicants to high status universities will spend a great deal of their, and their families’, wealth on acquiring attributes which are irrelevant to their success in higher education, but which ‘signal’ to admission tutors that they are likely to be trouble-free students, while governments are prepared to pay increased funding for these exclusive higher education places, thereby reducing the actual ‘ticket price’ to applicants. I first became aware of this topsy-turvy world of higher education economics in a casual conversation with a Japanese colleague some years ago, when he said to me, “Of course, the institutions with the highest prestige (in this case the Imperial Universities of Tokyo and Kyoto) are those which charge the lowest fees”. Higher fees are charged by private institutions of questionable standing, while private institutions with a high reputation, large endowments and generous government tax breaks come somewhere in between. In spite of the fact that my friend’s sentence began with the words ‘of course’, I am not sure whether this is a general principle that can be found across the globe. I have a suspicion, however, that it is a phenomenon that can be seen in a wide variety of contexts. In the US, some institutions have such huge endowments that they can afford to educate the students that they choose, without reference to the economic implications. And in the UK, in the absence of a national system, institutions are required to make provision for the least financially secure section of their student body, meaning that the institutions that have the least needy intake have the greatest resource to support them.

Looking at this confusion of competing theories and explanations, it is extremely difficult to make any sense out of the economics of education. The cost of higher education is not at all the same thing as the fee payable, and while the government subsidises the tuition fee, individuals may be making ever greater payments in order to secure the higher education of their choice. But whether higher education is a public good, and therefore has a price of zero, or is a classic private good, and therefore has a price which goes up in relation to its effectiveness as investment, or is a positional good, and therefore has a price which goes up as its scarcity increases, or whether it is a mixture of all of these effects, is impossible

to untangle. In fact the worst possible outcome would be that by choosing an appropriate mixture of these contrary effects, one could ‘explain’ any behaviour, however bizarre.

On the other hand, some rather interesting sidelights are thrown upon our activities in higher education. As teachers and examiners we have moved, very generally, towards criterion referenced tests, thinking that we should give credit to all of those who can attain a certain level of performance, however many people that includes. But as admission tutors and employers we have held on to traditional norm-referenced ideas, thinking that we are only interested in the top one per cent, or top five per cent, of the population, whatever the skills of the rest, thinking that more necessarily means worse. Thus, in spite of considerable evidence that A-level exams in the UK are poor predictors of undergraduate performance, young people spend increasing amounts of effort to secure that signal, and admission tutors increase the size of the signal required as demand for places increases. And this procedure is accompanied every year by a discussion of how difficult it is to select the best candidates when the examination results do not distinguish them.

Similarly, in the US there is conflicting evidence as to whether SAT scores are good predictors of undergraduate performance, but admissions tutors prefer the security of numbers that allow them to pick out the top performers, even if the scale used is faulty. It is hardly surprising, if academics, whose business this is supposed to be, cannot sort out what makes a good selection criterion, that lay people and politicians make a dreadful mess of the discussions when they get involved. Perhaps the primary function of admissions requirements, which as far as I can see actually add very little to the process of learning at degree level, *is* to measure and indicate the status of the institution, as indicated in Chapter 5.

So the lesson that we should take away from this brief sortie through the issues of the economics of education, is that higher education is very complex, and it may behave in any number of different ways, depending on how the economic agents involved perceive it. Education may not behave in the way that ‘common sense’ tells us that it should, if we apply the normal logic of the markets. Equally important, the two main ‘products’ of higher education, original results of research and educated people, may not behave in the same way, although there may be some very interesting interaction effects. Thus Roberts and Thompson (2007) found that in some cases when a research ranking went down, student recruitment actually went up. Although this is the opposite of what one might expect, where lower reputation would result in an institution becoming less attractive, in education it is always possible to find an explanation for the unexpected. In this case, the reduced emphasis upon research may have suggested that the institution was more concerned with undergraduate teaching, and the quality of student support. Or, then again, the effects were small, and may have been purely random, and beyond any rational explanation.

Consequently, it makes no sense to talk about education, particularly higher education, as though it was a ‘good’ or product to be ‘delivered’, with the student playing the role of ‘consumer’. Education is not ‘consumed’ like a packet of crisps or a Ferrari, although, as noted above, what it means to be a consumer of each of

those products is completely different. Education is not something that is delivered complete, and as soon as the consumer has unpacked it, a questionnaire can be sent round to ask whether they are satisfied with the way it worked, like a washing machine or a computer.

Education is co-produced by the learner, and one of the major problems with evaluation is that it may not be clear until years later whether a specific aspect of education is of value or not. Over the years I revisit educational experiences – and experiences that were not originally educational, but turn out too have had an important learning component – and re-evaluate them, not only in terms of whether they were good, bad or indifferent, but in terms of how the content of those experiences links with other things that I have learned, where they fit into larger schema, and so on. This process of the re-evaluation and re-location of knowledge never ends, and something may call to mind a long forgotten incident, and use it to integrate a current understanding. In this process layers of meaning, and importance, become added to memories, until no ‘pure’ memories are left. My past is gradually replaced by my memory of the past, which I use to make sense of the present. In that process, the ‘trivial’ may become important, and the ‘important’ may come be seen to be trivial. It is a complex process with multiple levels of non-linear feedback, which is to say it is a chaotic process, and not subject to the kinds of quality control that can be applied to a packet of crisps or a luxury car.

However, the real difficulty is that treating an educational process as though it were a packet of crisps is not merely irrelevant, it may actually be self-defeating. It has become part of current practice to distribute questionnaires at the end of any seminar or workshop: How did you rate the input from the presenters? Were the facilities appropriate? What could we do to improve the experience? Of course, these are important questions, but I always want to answer with Zhou Enlai’s response when asked about the impact of the French Revolution, “It’s too soon to tell”.

But being asked the question too soon is a minor irritant. The real danger is that I will answer, and having answered will think that the matter is closed. It was a good / bad / indifferent seminar, and having pigeon-holed it, I no longer need to think about it; it is no longer a source of reflection and learning. And if that is the message that we give to students, that education is a package that is ‘delivered’ and then forgotten, we are actively damaging the educational process. Worse still, if we start designing educational programmes as though the goal was to produce a positive response in the post-course questionnaire, much of value will be lost from the educational process.

If you go into the library of Harvard University Graduate School of Education, and I imagine many other similar institutions, you can read the student evaluations of the courses that were operating the year before: “I really enjoyed your approach to...”, “Professor, you really should do more of...”, “I found your approach to... really moving. Thank you”. It is all very interesting, and often contradictory, feedback for the teacher. It will also be of value to the students of the following year, who can see, possibly after reading between the lines, whether the approach of that teacher will suit them. But I also feel a little sad reading such comments,

because there is a sense of finality about them; anything that can be learned from this experience has been learned, and there is nothing more to come. Education is presented as a closing down, not an opening up of opportunities. End of course questionnaires bring ‘closure’.

In the UK we have nothing as open or as direct as the responses of students at Harvard. We have anonymised questionnaires and the National Student Survey, where the names have been changed to protect the innocent – or the guilty, one never knows which. Everyone knows which teachers the students like, and which they do not, but we have to pretend that this is not transparent. It may be part of our history, that process of protecting individuals from being singled out that has its roots in the origin of the university, or it may be that poor teachers may be thinking about something else such as cutting edge research, or it may be something else. But there is some sensitivity about openly identifying the teachers that the students find difficult. It seems to me odd, however, as I suppose those teachers who do not manage to engage students must find the hours they spend teaching very dull and unpleasant. Would not anybody prefer to have support that would make their chosen profession enjoyable?

In the US teachers are exposed in a more open way to the disciplines of the market. Students can publish their views on the course (which does little more than formalise the word-of-mouth mechanisms that operate in any case) and teachers who cannot attract students will see their courses closed. Not that that system is perfect either, with students taking into account how hard you have to work for grades, and whether the teacher fails many students. It seems that there is no easy ‘supply side’ solution to quality management, as there is with consumer goods, at least in part because education is not a consumer good, but depends upon the learner’s engagement.

In higher education, everything comes back to the quality of the student experience. That is a theme that I shall return to in some detail in the next chapter. But before moving away from the economics of education altogether, I want to look at one last aspect, the difficulty of the relationship between the economics of the sector as a whole, and the position of a single institution, or single student.

One of the paradoxes of higher education is that, as a sector-wide phenomenon, public support to students in higher education goes to those who least need it. The way that this works is that those who attend higher education are those who have done well in upper secondary school, and among those the wealthier sections of society are more strongly represented. Thus when five per cent of the population went to university, any government support in the form of loans or grants was being paid to the children of the wealthiest section of society. That is a general statement about the situation, on average. Of course, there were brilliant scholars from more humble backgrounds who were successful in higher education, but they were the exception rather than the rule. And, so long as those benefits were paid to the wealthiest out of general taxation, public support for higher education was effectively a subsidy of the rich by the poor.

There is, therefore, a social justice argument that says that the burden of paying for higher education would be more fairly distributed if it was borne by those who

attend university. That argument has, by and large, prevailed, as systems have moved towards the use of loans which are paid by the individual beneficiary of the education system. However, that does bear heavily on the poorest sector of those who attend higher education, and who, because they have fewer resources behind them, are less inclined to incur debt to attend higher education. There is a social justice argument that these poor scholars deserve additional help from the public precisely because they are most likely to be excluded by economic considerations.

Not only that, but higher education institutions tend to be segmented according to the background of their students, with some institutions attracting (mainly) students from wealthier backgrounds who have been very successful in secondary schools, while others have a 'diversity mission' and attract students (mainly) from less affluent backgrounds who would not have been in higher education fifty years ago. (Interestingly, a recent report by a parliamentary committee of enquiry in the UK came to the same conclusion (House of Commons, 2009: para. 133).)

A number of prestigious US universities have what they describe as a 'need-blind' admission policy. This is a policy to admit students on the basis of academic merit, and then guarantee that they will be financed in accord with their economic need. It is noticeable, however, that it is only the most prestigious that can afford to guarantee a need-blind approach, while many more aspire to being need-blind and may have adopted an intermediate, need-sensitive (need-blind until the student aid budget has been spent) approach. The reason for this link between prestige and need-blind admission is twofold. First, those institutions have bigger endowments which mean that they have more to invest in student aid. Second, where competition to enter an institution is high, the least affluent will be disproportionately under-represented, so that the student aid budgets will not need to stretch so far.

But this does mean that when student support is organised at an institutional level, without any attempt to equalise resources at a national or regional level, large, predominantly teaching institutions that do not attract research funds will be at a disadvantage. Both at the individual level and at the institutional level, lessons drawn from a system analysis and a well-meaning effort to adopt socially just solutions can lead to different social injustices at the level of the individual or the institution. Policies that are designed to be fair across the sector as a whole may produce injustices at the level of the institution, while policies that are designed to be fair at the institutional level may nevertheless disadvantage some individuals. Increasingly, we are seeing governments trying to justify more open systems of support, by arguing that the same rules are being applied to everybody. In the context of higher education, however, it needs to be remembered that social justice does not only require that similar cases should be treated equally. It also requires that dissimilar cases are treated appropriately and differently.

STUDENT EXPERIENCE

If you enter “student experience university” into Google, that search engine returns literally millions of results, the first several hundred of which are statements on university websites from all over the English-speaking world explaining what they do to enhance the student experience, and surveys they conduct to measure and / or enhance the student experience, along with seminars, conferences, books and publications designed to heighten academics’ awareness of the importance of the student experience. And then, of course, there is the *Times Higher’s* survey of student experience and a league table of rankings. It seems to be a truth universally acknowledged that the student experience is at the heart of quality higher education. It is certainly at the core of current thinking. But leaving aside research for the moment, as it is a moot point whether research adds to or detracts from the student experience, what else do universities do but provide for the student experience?

The ‘student experience’ is a concept that is broad enough to mean anything and nothing. So it certainly needs unpacking. The many references to the student experience include a report of the House of Commons Select Committee on Innovation, Universities, Science and Skills (House of Commons, 2009). They were obviously thinking about assuring the quality of a packet of crisps when they sought a commitment from various professionals that the standard of a particular degree would be the same wherever it was studied and in whatever subject: “[W]e were concerned by the responses of the Vice-Chancellors... when pressed on the apparent disparity in the levels of effort required in different universities to obtain degrees in similar subjects” (House of Commons, 2009: para.222). It is not absolutely clear how effort is connected to standards, nor to the standardisation of outcomes, which the committee was, ostensibly addressing.

I have not infrequently been confronted by students who have complained about a mark when they ‘worked really hard’ on an assignment. I frequently have to acknowledge that they have, indeed, worked really hard, but that assessment is not about the amount of effort that has been put in. Hard work, or lack of it, is part of the student experience, but not something that can be standardised. What is hard for me may be easy for you, and *vice versa*. The problem with insistence upon standards is that it leads to a focus on things that can be standardised, such as study hours, contact hours and ‘time on task’, without actually addressing the quality of the experience. Higher education in the UK, and worldwide, has been trying to move towards processes where knowledge and skills are valued wherever they have been acquired – as in the development of work-based learning – and a concentration on the ‘amount of effort’ however measured would be a step backwards. That path leads to those dreadful continuing professional development schemes that require attendance at a certain number of hours of staff development, but say nothing about engagement with the process.

On the question of comparability across subjects, the committee was less specific, but said, “As we noted at the beginning of this chapter, students, understandably, want to know the worth of their degrees” (House of Commons, 2009: para. 256). Now ‘worth’ is another concept which has nothing to do with the student experience. If an employer has a particular predilection to think that graduates from his or her own *alma mater* are better prepared than those from other institutions, there is not much that any institution, or even the whole sector, can do about that. Indeed, it is not necessary to believe that such preferences are based purely on uninformed prejudice. If an employer thinks that a graduate in biology is better suited for a particular line of employment if their course has given particular emphasis to zoology, or environmental management, they may give preference to graduates from particular institutions on the basis of curriculum in perfectly reasonable ways. Unless we intend to go even further in specifying the meaning of terms such as ‘biology’ or ‘computer science’ than we have already, there will always be possible grounds for such distinctions.

The committee also cited another piece of evidence about a failure to assure standards in higher education: “We were therefore concerned when staff at Imperial College London informed the Chairman of the Committee during his visit as a rapporteur that some academics had noticed that masters students enrolled at Imperial, who had graduated from certain other universities with first class honours degrees, sometimes struggled at Imperial College. We consider that this could be evidence of a devaluation of degrees in those institutions” (House of Commons, 2009: para.256). Strangely enough, this is a fallacy that should have been easily dispelled by thinking about a packet of crisps; the labelling on food products often says, “This product was in perfect condition when it left the factory, but may have been damaged in transit...” I may regret that there are students who cram for an exam, and two weeks later can remember very little of what they demonstrated in their written answers, but students do it in all institutions. I have met students who have struggled in their third year because they clearly had put out of their minds things that they had accurately reported in their examinations at the end of their second year. This has nothing to do with comparability between institutions, although it may very well have something to do with the quality of student experience, properly conceived.

Vygotsky has noted that psychologists have been most successful when dealing with lower mental functions and the development of children in their early years, because they rely on a limited range of conceptual tools; they have been less successful when it comes to describing and accounting for the development of higher mental functions. A similar problem faces us when we deal with the student experience, in that it is easiest to deal with those aspects which are most mechanical and have least to do with developing the kind of skills and knowledge that are associated with study in a university.

So it would perhaps be helpful to begin with a question that is not as complex as the question of examining the whole student experience, but is at least a step in the right direction. What is a reader’s experience of *Middlemarch*? Is your experience of it the same as mine? Is my experience of it the same as it would have been

twenty years ago, or even five years ago? There is no point in talking about my possible experience of it forty years ago; I could not have read it. This is not because I could not read, but because I lacked either the imagination or life experience to have got beyond the first few pages, or if I had gone through the motions of decoding the words, it would have been such a chore as to deny me anything that could properly be described as an experience of the novel. (Virginia Woolf described *Middlemarch* as “one of the few English novels written for adult people”, so perhaps a certain life experience is needed to before the novel can be experienced.)

What we experience in such a complex case as reading a novel depends upon what we bring to the reading, why we read, how we reflect upon it, how important we find it in changing our ways of thinking, and how it connects, if at all, with other things that we have learned. How could three or four years of a person's life, when they confront a vital stage of their intellectual development, be less complex than reading a novel? Some will be studying to acquire a qualification that will open future opportunities to them. Others will be seeking their personal development, or satisfying personal curiosity. Still others will be avoiding adult responsibilities in the sheltered environment of higher education, and yet others will be looking for a space to re-orientate themselves after a very directed schooling. Since the majority of students are young people, many of them will combine this search for intellectual development with a quest for social and sexual identity. But the majority will pursue a combination of these purposes, with the emphasis shifting over the years, or even week by week or day by day.

Perhaps it ought to be said here that there are aspects of the student experience that are not the business of universities. There is an important boundary between the intellectual and the personal, and the university should not intrude into the personal. There is some evidence that students understand this distinction very well, and resent the intrusion of universities into their social networking by using *Facebook* and other Internet tools for administrative purposes. On the other hand, intellectual development and personal development may be intimately linked. I have met students who, having suffered terrible experiences, have chosen higher education as a way of studying those experiences, coming to terms with them, and using their new understanding as a way of contributing to society and supporting other people who may face the same or similar difficulties. This link between the personal and the intellectual can be a powerful motivation, and very moving.

The previous paragraph practically invites a definition of where the boundary is between issues that concern the university and those that do not. Is financial assistance an issue for the university? Is career guidance? Is relationship counselling? And the answer is important, because it marks a difference between how such issues are normally viewed, and how they should be viewed; the boundary is wherever the student says it is. The university can provide for all aspects of the student experience, but it cannot impose any aspect on the student. ‘Cannot’ has a double force here. You cannot provide career guidance or financial counselling, or even instruction in mathematics or geography, if the ‘recipient’ of these is determined to gaze out of the window and daydream. But nor should you

try to impose those things on a student. If the experience is to have any value at all, it has to be self-managed, and this is probably the defining distinction between higher education and earlier education. (There may be a discussion here, in relation to earlier education, as to whether it should be self-managed or not, but if the student in higher education is not managing their own learning we are not really talking about higher education at all.)

In the UK there is a continual tension between the fact that we are dealing with two million messy, quirky, idiosyncratic individuals, and the preference of teachers and bureaucrats for tidy systems and simple rules. This tension probably exists in all higher education systems around the world, but an example from the UK may serve to illustrate the movement to and fro.

In 1997 the Dearing Committee recommended that institutions should disseminate information about their programmes in the form of a ‘programme specification’:

“[W]e believe that clear descriptions of programmes should be developed so that students are able to compare different offerings and make sensible choices about the programmes they wish to take... Such programme specifications could usefully replace some of the prospectus material that is presently produced. They will provide a basis for employers and students to understand the level – or standard – that programmes are aiming to reach in different areas” (National Committee of Inquiry into Higher Education, 1997: para. 9.53-4).

The expectation was that clear information could be provided that would meet a diverse range of information needs. Prospective students and their parents would be able to see exactly what was expected of them in order to graduate, how they would be expected to develop, and what would be involved. At the same time, employers would be able to look at the details of the programme a graduate had followed and would know exactly what to expect of a new graduate that they might employ. Sponsors might look at the programme specification and decide whether the programme met their expectations as to the kind of activities they wished to promote, and so on. And this task of supporting institutions as they developed this information for multiple audiences fell on the Quality Assurance Agency in Higher Education (QAA), and the recommendation of the Dearing Committee formed the basis of their initial agenda.

Now, this effort towards making more information available was, and is, entirely positive. The expansion of higher education had meant that many students in universities had no previous experience of higher education, and may not have had anybody in their family to whom they might have turned for advice. A failure to make the information available more transparent would have meant that those who came from backgrounds where higher education was common would have been permanently advantaged, while those who did not would have struggled with the implicit and unwritten requirements that they only imperfectly understood.

But in practice, providing information for such a variety of audiences in a single specification was asking too much. Many employers, especially corporate

employers that routinely take on graduate employees, are very familiar with the system of higher education, while many small enterprises may not be, but the exact content of a programme may be of less importance. Even with a detailed specification of a programme, a student with no experience to draw upon to interpret that specification might still be left with a need for more information. And, in addition, some programmes might be structured in such a way as to make it very difficult to specify outcomes in advance. For all of these reasons, the QAA moved away from its initial goal and adopted a more permissive approach, giving institutions a framework within which they could respond to the needs of their target audience(s).

“The minimum expectation is that the information contained in Programme Specifications will be used to inform intending students and their advisors, students who are already studying and potentially employers, about the learning outcomes from a programme and the means by which these outcomes will be achieved... but institutions may provide the information in ways that are more meaningful to such audiences e.g. through prospectuses and promotional materials, on-line guides, student or course handbooks, supplementary statements attached to transcripts... This approach reinforces institutional responsibilities for Programme Specification by enabling them to determine how they present such information...

The Dearing conceptualisation of the Programme Specification is based on an assumption that all HE programmes can be defined prospectively in terms of knowledge and understanding and a set of generic learning outcomes and study units that enable such outcomes to be achieved and demonstrated. Many curriculum structures enable students to create their own programme by combining different subjects in a variety of unpredictable ways. This makes it difficult to create prospective Programme Specifications. Policy must accept that for more flexible curricula arrangements the specification of outcomes and content can only be indicative and illustrative at best” (QAA, 1999).

As one who experienced early workshops on how to draw up programme specifications that met the original Dearing aspirations, this introduction of flexibility seems to me to have been the only possible response to the situation as it currently exists in higher education in the UK. The Select Committee report, however, came to an entirely different conclusion:

“We conclude that the higher education sector should develop a code of practice on information for prospective students setting out the range, quality and level of information that higher education institutions should make available to prospective undergraduate students” (House of Commons, 2009: para. 98).

We see here, as in the earlier case, a tension between higher education institutions that want to accommodate diversity and flexibility, while politicians and bureaucrats prefer order and standardisation, with the QAA, as a bureaucracy

engaging with higher education institutions, somewhere in between. And the diversity addressed here is only diversity between institutions, without taking into account the idea that different students may have different purposes, and therefore different information needs.

For the intending journalist, experience on the undergraduate newspaper may be more important than anything learned in a formal class, and for the intending politician, experience of engagement with the student union may be similarly important. Many universities have made significant steps forward by recognising that learning from such experiences may be an important element of the skills, knowledge and personality that the student develops, and should in some cases carry credit in recognition of that fact. But generalising that to all students would be impossible, and hardly desirable, from any perspective other than that of a tidy-minded bureaucrat.

So what of the student experience? An initial element of the student experience of many students, perhaps a majority, is the recognition that they have chosen the wrong course. I can sympathise with that. When I chose to study a programme in engineering, I was working under a serious misapprehension about the meaning of the word ‘engineer’. My brother-in-law tells me that the word ‘engineer’ has the same etymological root as ‘ingenuity’, and perhaps that was the misapprehension that I was labouring under. I thought that engineering would be a continuation of my own adolescent struggle to make sense of the world through the application of science. And at one level, of course, it is. But what is true of engineering as a whole, may not be true of each individual engineer as a person, much of whose work has been routinised by codes of practice and regulations. Nor had I been properly prepared by a school system that was highly efficient and possibly over-supportive, to understand what it meant to learn on one’s own.

The result was a fairly early recognition that I was in the wrong place. My tutor offered me the opportunity to transfer to the study of philosophy. Perhaps he saw further and more clearly than I did. Perhaps he just wanted to make sure a difficult student was somebody else’s responsibility. I have always liked to think that it was the former, but in any case I refused his offer. Some people are simply unready to learn, and I thought that engineering was in the wrong place rather than me. The upshot was that I completed the programme, but never practised engineering professionally. In later years, that would come to be seen as an ‘inefficiency’ in the system, not as inefficient as if I had dropped out, but less than optimum use of the government investment in technological subjects.

How should we deal with this aspect of student experience? Well, more information might have been helpful; more information about the course, more information about the opportunities, and so on. But in practice, I do not think that any amount of information would have had a serious impact on the outcome. Our schooling prepares us for the notion that there are specific subjects, such a History and Biology (complete with capital letters) that belong in watertight compartments on the timetable. (I am reminded of a poster in the education department at Simon Fraser University, which drew attention to the fact that it was watertight compartments that made the Titanic unsinkable.) But what we learn at university is

that these are not pre-existing composites; history and biology are what each student makes out of them as they learn. I have even made something out of engineering in my way, though you should not trust me to design a bridge for you.

One of the most important supports in dealing with any experience is understanding that you are not a freak (even if you are). It is always helpful to know that you are not alone in this particular position, and that other people have found this difficult. University may be the first time when a person has to confront the fact that education is not about learning an established body of fact that comes ready made as History, Biology or Mathematics. It is about developing personal understanding of what history, biology or mathematics are, and what they mean to the individual. We clearly do not help this process if we pretend there is a straight line from designing a programme specification, via learning experiences, to assessment of learning outcomes, and insist there must be national standards that ensure that all history degrees are comparable, in terms of outcomes, across the sector.

Similar arguments relate to the question of comparability between institutions. Some students will be better served by more intensive and supportive teaching, others will be inspired by contact with researchers who have made extending the knowledge in their field a way of life. Some will get a kick out of being able to put a face to a person who has previously only been a name on the title page of a book, and to understand the personal networking that goes to make up a field of study. Every student has the right to have teachers who are up to date with their field and whose teaching is informed by current research, that is to say they have a right to be taught by conscientious academics whether they are active researchers or not, but not every student will be inspired by the same aspects of learning.

I worked for some years in the North East London Polytechnic's School for Independent Study, where students designed their own programmes of study for undergraduate work, and was persuaded by the argument of a colleague, that it was not 'independent study' because you did it on your own, but because you were free to choose the disciplinary setting in which you located your work (Robbins, 1988). I have subsequently been struck by how often doctoral students will say words to the effect, "I thought I was conducting a study of X, but now I found that it was about something else". Moreover, that 'something else' is often their own development, as a professional or as a researcher.

No institution, and no teacher, can accommodate the range of individual responses that will be called forth on the part of individuals who have enrolled on a particular course. The best that we can hope to do is create spaces where the individual responses of students are valued and encouraged. The School for Independent Study was an extreme example of how this can be done, by enabling every student to design their own programme of study from scratch. However, even where the learning outcomes are set in advance, there seems to be no excuse for not opening up a dialogue with students, and asking them about how they intend to engage with the programme. But this only works if we are genuinely interested in the answer, and do not come to the discussion with any preconceived views on what we will be told.

Some years ago I decided to take a module at my university in the department of computer science. The module was designed to teach students how to do object oriented programming, and specifically to program in Java. I had studied computer programming years before as an engineer, and had the view that I was a moderately competent, by stylistically poor, programmer, and I thought it would be a good idea to take a module to see whether I could understand what the difference between me and a good programmer was. In addition, there was a specific program that I wanted to develop, and this looked like a good way of engaging some help.

I hope the lecturers who taught the module will forgive me if I describe the teaching as 'pedestrian'. Each week, they had their learning outcomes before them, they came into the class, gave a brief introduction, and then proceeded to work through example code projected on the whiteboard, until their objectives were achieved. It was not anything that I would have gone and brought a colleague to see as being excellent teaching. Yet I know that it was excellent, because it answered exactly the questions that I was asking, and I came out at the end of the module being able to write the program I wanted in Java. For me, it could hardly have been better.

But it did more than that. Although I did reasonably well in the final assessment on the module, there were programmers in that class who were incomparably better (including the teachers), and I could see why I am an indifferent programmer, and am likely to remain so. (I do apologise. At that point, I was distracted by a diversion onto the Internet that suggested my mediocrity as a programmer might be directly traceable to the fact that my first experiences of programming were in Fortran.)

But in addition to all of that generally positive experience that I expected, and had selected the module for, I got something else. One of the lecturers would routinely, at some point in the class, intersperse his demonstrations with a diatribe against Java itself. At first, I regarded this as a minor irritant. I had, after all, chosen a module that would teach me how to program in Java; I did not need to be told that Java was a poor programming language. However, I came to see this as the expression of the lecturer's scholarship. He kept up to date with the development of the field. He was aware, as I could not possibly be, of developments that were coming, but which might affect me if I continued to program for the next ten or twenty years. These brief interjections were a reminder that we were not being inducted into a fixed body of knowledge, but that we would need to update ourselves, find ways of transferring any skills we developed to new environments. This was at least one of the reasons I enrolled on a module, and did not teach myself Java from a book. And for others in the class it may have been more vital still, whetting their appetite, and encouraging them to go off and look at the latest developments in programming languages.

What counts as excellence is very difficult to put one's finger on, and students may not always be able to see what is important immediately. Now, of course, I am aware that this argument can be used as an excuse for anything terrible in education. I have encountered dreadful teachers in the course of my education, and I have learned things from them (over and above how to make paper aeroplanes).

Indeed, if you do learn something from a dreadful teacher, you will probably have learned it well, because it has been such hard work, and because you have had to make sense of it for yourself. I have no wish to justify anything that is truly dreadful in higher education. But excellent teaching is only excellent if it meets the needs of at least some of the learners in the class.

Over the years, and on odd occasions, teachers have said some dreadful and discouraging things to me, and I have taken them as motivation to go on and do better. I will never know whether those spurs to improvement were finely judged motivational stimuli, or lucky accidents. But I think that as teachers we should be aiming to improve the odds beyond the level of happy accidents. And our best chance of doing that is by engaging the students in explaining what it is they hope to get out of our classes, so that we can try to help them. That is not to say that the student has an unrestricted right to demand support for any goal whatsoever. “I want to be spoon fed the answers that will give me a good mark in the exam, without exerting any mental effort”, is not a goal that teachers are obliged to support, even if expressed more circumspectly. It might, however, be a goal that deserves discussion.

In the end, however, the only way that we can be sure that our students will each have a positive learning experience is to ensure that they take control of and manage their own experience. They need to be clear about what they want to get out of the experience of university – as clear as possible, that is. When I chose to study at undergraduate level I had two unspoken principles that I used to make my choice: “I want to continue to apply science to develop my personal understanding of the way the world works”, and “I want to study at the university where entry is the most competitive, because otherwise I might always be left with the thought that it could have been better somewhere else”. I had no idea that these two principles were mutually exclusive, and I might have come to that conclusion more quickly if the principles had been spoken rather than unspoken, but by following the second principle, I made sure that I had no major reason for regret. But we should help our students to recognise that there are different reasons for engaging with higher learning, and to identify as well as they can what their reasons are at any particular time.

Our failure to create space for that diversity in purposes is not just letting our students down, it is letting the system down. If I set an assignment, say, ‘Compare and contrast the approaches to development in the early years of Vygotsky and Piaget’, the resulting assignment will depend on what the how the student interprets what is expected of them. Entwistle (2000) has suggested that students who read an article with a view to gaining an understanding of the author’s intended meaning are better able to answer questions than those who try to ‘question spot’. By the same token, students who try to present what they think is the right, or expected, answer, will not do as well on this assignment as those who try to explain their personal understanding of the content, and why it is (or is not) important to them. By failing to stress the personal relationship with knowledge, and suggesting that there are impersonal standards against which answers will be judged, we promote plagiarism. After all, if there is a right answer somewhere out

there, somebody else more fluent than I has probably put it better than I can, so I might as well cut and paste it. But if I am seriously being asked to explain my own position in relation to this topic, nobody else will know the answer, and there is no point in me trying to copy it from someone else.

Thus we need to be helping our students to be more demanding, not in the sense of consumers looking for higher quality products or better value for money, nor in the sense of critics who are looking for more entertaining or more instructive performances from their teachers, but in always asking, “What am I expecting from this?”, “How does this topic address my needs right now?”, and “Is this the best way for me to be addressing my questions?” If they were asking those questions when they chose their programmes and institutions for study, too, we could accommodate diversity and quality in the system of higher education at the same time.

POSITIVE BENCHMARKING

What have the last three years been like for you? Or the last four years? A moment's reflection shows this to be a ridiculous question. There have been ups and downs. There have been new friendships and explosive disagreements. There have been modest achievements and minor frustrations and disappointments. There have been births and funerals. Two steps have been taken forwards, and then one back, in the areas of work, family, entertainment, and the general social whirl. In short, life has continued pretty much as usual, in its own ineffable way.

And if that is true for me, how much more the case for a twenty year old, for whom three or four years looms so much larger in terms of their life experience. Developing new tastes and social composure, experiencing unrequited, and requited, love, taking their first steps into freedom or license, responsibility and accountability, the development of a work identity, and the refinement of leisure tastes; three or four years covers a wealth of experience of all kinds for the young adult.

And higher education has the capacity to impinge upon all of these areas of life. That is not, of course, as I have noted before, to suggest that the university, *qua* university, should involve itself with every juvenile escapade, every excessive drinking bout, every experimentation with drugs or every poetry reading in student residences; there are some aspects of life which are, and should remain, forever private. But it is in the nature of the university that the nature of all experience will be addressed from one angle or another. Not all students will study the biology of the absorption of ethanol by the body, nor will all students study *Mill on the Floss*, but some will, and will carry that experience over into their social lives and hence share it with other members of the university. The function of the university in this context is to facilitate the development of safe environments, where trust and friendship will support individuals through difficult transitions, some, but not all, of which will be associated with the course they have enrolled on and the qualification they seek to attain.

However, only an academic could ask what *the* purpose of the university is, or attempt to describe *the* function of the university. In the world we experience in the early twenty first century, when we celebrate post-modern diversity and freedom to choose, when my bed caters for my personal profile and my computer stores my personal preferences, when niche marketing has become commonplace, and even my bank thinks that I should be treated as an individual (so long as I do not actually turn up at my own branch in person), only educational institutions seem to be wedded to the nineteenth century ideals of mass production and Fordism. Only in schools are the same 'standards' demanded of everybody. And only in universities do we agonise about what we are here for. Or perhaps it would be more accurate to say that politicians agonise on our behalf.

You might like to try this little experiment: I put the words ‘top universities league tables’ (without the quotation marks of course) into Google. The search returned nearly two million results, many of them news stories, and many more of them from university websites using their league table positions as selling points. Substituting the word ‘companies’ for ‘universities’ produced fewer than half as many hits, and it was immediately apparent from those that there was huge diversity in what was meant by the ‘best’ companies: the top 100 creative companies, the best companies to work for, the top technology consultancies and the top companies in Yorkshire. Substituting the name of any consumer good for the word ‘universities’ produced barely any sensible results. For ‘top cars league tables’, the top two hits were pages from newspapers reporting university league tables, where the page also carried a cross reference to the motoring section, while the third and fourth hits were a story from the *Galway Independent* stating that white cars were more likely to be stolen than cars of any other colour, and a report of the *Nuts* magazine ranking of cars used by footballers in the English Premier League respectively. No real indication that anyone is taking that too seriously. ‘Top washing machine league tables’ and ‘top fridge league tables’ produced nothing much that had to do with the ranking of those consumer items, and ‘top television league tables’ produced a fair crop of university media departments extolling their own virtues. Only the words ‘top hospitals league tables’ produced anything like the same results as the search for league tables of top universities, and for fairly similar reasons.

In the 1950s and 1960s in the UK, corn flake packets frequently came adorned with competitions inviting the bored breakfaster to rank the various criteria by which the consumer might select a car: luxurious interior, safety, economy, speed, or availability in a range of colours. Even then, people realised that choice of consumer goods was multi-dimensional, and what suited one person might not appeal to another. Gradually, by increasing choice on a range of dimensions, it became possible to think about market niches, individualised production and even tailor-made products. Only in educational institutions (and hospitals) do we still think that we can judge quality on a single scale and produce a definitive judgement that one institution is ‘better’ than another.

But in terms of how those institutions are actually experienced, we know that they are multi-functioned. One student wants a qualification that will be respected, another wants to be presented with highly structured educational material, another wants to be inspired by meeting leaders in their academic field and yet another wants to get away from the home of their childhood and meet some new people. And these various purposes are not mutually exclusive, nor fixed, but change for an individual, or become more or less important relative to other purposes.

Looking back at my experience of the University of Cambridge, I recollect that it was completely unstimulating academically, but a huge demand socially. Having insisted that those entering the university were well qualified, the lecturers then delivered material which was, for the most part, well within the capability of anybody who had qualified to enter. But meeting people from sections of society that I had never encountered before required a great deal of time and emotional

effort. That is, of course, until the point came where I had neglected my studies for so long, and devoted so much energy to socialising, that the academic work suddenly became much more demanding, and I had less time to worry about whether I fitted in. Would I have been better off going to a different institution where the majority of the students would have come from backgrounds more like my own? I do not know, and I frankly doubt it, but I have every sympathy with those who do make that choice. Would I have been happier if I had enrolled on a different course, one that presented me with more novelty and challenge? Probably, but it is difficult enough to be sure in retrospect, without expecting young people to be able to know in advance.

Universities are highly diverse institutions, which have multi-dimensional capabilities. Students, and prospective students, are heterogeneous, and come to university with very different expectations and notions of what they are entitled to from their alma mater. Developing a high quality system of higher education involves matching those different multi-dimensional patterns of expectations and provision so that as many young people as possible have the greatest possible opportunity for self-development, career advancement, social networking, or whatever it is that they need at that time, at the same time as developing the confidence and communicative capacity so that they can complain about how badly they were served after the event.

The problem could perhaps be reduced by reducing diversity. I think that this is probably what conservative admissions tutors aim for when they claim that they need to raise entry standards, or to have at their disposal better and more discriminating tools for the identification of the brightest and best. But in the end, the university cannot solve this problem alone, and it needs to be addressed elsewhere. Students and prospective students need to manage their own alignment with the institutions that they join. Of course, that does not absolve the university from responsibility for providing an inclusive and responsive environment, but it means that, as a minimum, students need to understand that becoming a student is not something that happens in Freshers' Week, and never needs to be thought of again. Becoming a student involves three or four years of activity, reflecting on how one relates to one's subject discipline, how one develops and applies standards of behaviour, judging whether one is doing the right thing, and so on.

It would be helpful if institutions (and that means schools as well as universities) made it clear that universities do not consist of an array of 'places' into which students have to be slotted. But the key elements of a high quality higher education system are a high level of self-knowledge on the part of students, and the free availability of good data about the institution.

That a person needs self-knowledge in order to become an effective learner is at the same time obvious and unconventional. It is unconventional in the sense that when educational theorists talk about 'starting from where the student is', they normally describe that as a task for the teacher, who should adapt the content of the lesson so as to take account of the starting points of students. However, the idea that the student himself or herself has at least some of the responsibility for matching up prior and present experience is obvious, in the sense that, even within

relatively carefully selected classes the teacher is unlikely to know all of the students extremely well, and ultimately only the student is in a position to personalise his or her own learning.

But, as my own case makes clear, self-knowledge is not necessarily an easy matter, especially for young students, and especially for students who may be trying to protect themselves from the idea that they may have been mistaken in some of their earlier choices.

The Framework for Higher Education Qualifications in England, Wales and Northern Ireland QAA (2008), contains an interesting graduation of expectations as the student moves from Level 4 to Level 6 (the different levels encompassed by the move from high school graduation to the bachelor's degree). These start at "the qualities and transferable skills necessary for employment requiring the exercise of some personal responsibility", via "the qualities and transferable skills necessary for employment requiring the exercise of personal responsibility and decision-making", to "the exercise of initiative and personal responsibility, decision-making in complex and unpredictable contexts (and) the learning ability needed to undertake appropriate further training of a professional or equivalent nature". That is to say that the ability to make decisions in complex settings and to manage future learning is to be developed over the course of a degree programme, and is not presumed to exist beforehand. This makes perfectly good sense, that the settings and the understanding of the situational value of knowledge grow in complexity as one studies one's chosen subject at university.

Even so the eventual aim, that all graduates should be able to make decisions in complex and unpredictable contexts, may seem to be a little over-optimistic. I remember a conversation with a friend, himself a graduate, who told me that the most educative experience of his career had been a short staff development course he attended after starting work (and therefore after three years at university and fourteen years of schooling). That course, he said, introduced him for the first time to the idea that a person might disagree with him for other reasons than the fact that he was mistaken. Up to that point, he had thought that the only question of importance was whether he was right or wrong; that short course introduced him to the idea that human settings and personal interactions were much more complex than that, and he needed to take into account what other people wanted to get out of any given situation, and not merely whether a particular viewpoint was correct. And that new understanding shaped all his subsequent experience as a manager, and re-cast his understanding of all his previous experience. That must be the kind of complex understanding of knowledge in its social setting that higher education should aim to achieve. But clearly a full understanding may only come later, with additional work experience.

This leaves the crucial difficulty that we expect young people to make one of the most complex, difficult and socially contextualised decisions of their lives, namely where to study and how to fit themselves to their study, before they have achieved this kind of decision-making skill. How we provide support for such decision-making is a serious issue, but one of pedagogy rather than standards. However, providing clear and understandable information that might form the basis of such a decision is a question that needs to be addressed in terms of providing a system of quality higher education.

Benchmarking is a valuable, and perfectly legitimate, process, so long as it is taken as the starting point for active decision-making, rather than as an end point for judgement-free, bureaucratic processes. It also needs to take into account the fact, as previously discussed, that higher education quality needs to be evaluated along a number of dimensions, although people may differ as to the significance and importance of the different dimensions. The discussion of DEA in the context of national and international league tables has involved rehearsing many of the arguments relating to benchmarking. It should also have suggested some of the possibilities that are, or could be, available.

Figure 9.1 shows a data table that includes nine variables, but many more could be included. For each variable, the user may choose how it is to be treated in the analysis. Each variable may be treated as a controlled input, an uncontrolled input or an output. A controlled input is one that the university is presumed to be able to set as it pleases, such as expenditure on library resources, or student entry grades. An uncontrolled input is something which may affect the operation of the university, but over which the university is presumed to have no control, such as the level of rents in the surrounding communities, or the distance from Edinburgh.

The screenshot shows the 'Data Viewer' window of Frontier Analyst Professional. The window title is 'Independent League Table data.f3 - Frontier Analyst Professional - [Data Viewer]'. The interface includes a menu bar (File, Edit, View, Window, Help), a toolbar, and a main data table. The table has columns for 'Unit Name', 'Active', 'Student Satisfaction', 'Research Assessment', 'Entry Standards', 'Staff Student Ratio', 'Academic Services Sp', 'Facilities Spend', 'Good Honours', 'Graduate Prospects', and 'Completion'. Each row represents a university, and each cell contains a numerical value. Checkmarks in the 'Active' column indicate which units are included in the analysis. The 'Input/Output types' column shows 'Controlled input' for all units. The 'Unit names' column is set to 'Oxford'. The 'Input/Output names' column is set to 'Dummy'. The 'Input/Output types' column is set to 'Controlled input'. The 'Analysis' section at the bottom shows 'Reports' and 'Sort: Unsorted'.

Unit Name	Active	Student Satisfaction	Research Assessment	Entry Standards	Staff Student Ratio	Academic Services Sp	Facilities Spend	Good Honours	Graduate Prospects	Completion
Oxford	<input checked="" type="checkbox"/>	4.11	3.00	524.00	9.17	2,639.00	567.00	91.10	82.30	97.60
Cambridge	<input checked="" type="checkbox"/>	4.18	3.00	539.00	8.62	1,795.00	657.00	87.00	85.50	99.00
Imperial College	<input checked="" type="checkbox"/>	3.69	2.90	489.00	9.71	3,036.00	575.00	68.50	88.40	97.10
London School of Economics	<input checked="" type="checkbox"/>	3.77	3.00	483.00	7.09	1,391.00	285.00	76.00	90.60	96.50
Durham	<input checked="" type="checkbox"/>	3.96	2.70	459.00	6.98	1,038.00	682.00	77.50	78.30	96.70
Warwick	<input checked="" type="checkbox"/>	3.90	2.80	483.00	7.41	1,830.00	354.00	78.70	78.20	95.90
St Andrews	<input checked="" type="checkbox"/>	4.22	2.70	460.00	8.13	1,152.00	357.00	85.10	77.80	94.20
University College London	<input checked="" type="checkbox"/>	3.85	2.80	452.00	10.99	1,588.00	220.00	80.40	82.90	92.00
Bath	<input checked="" type="checkbox"/>	3.90	2.70	440.00	6.54	960.00	424.00	75.10	81.50	95.60
York	<input checked="" type="checkbox"/>	3.96	2.60	434.00	7.46	1,246.00	369.00	74.90	69.40	95.90
Edinburgh	<input checked="" type="checkbox"/>	3.66	2.70	447.00	7.81	1,660.00	335.00	80.60	76.90	90.40
Lancaster	<input checked="" type="checkbox"/>	3.92	2.70	388.00	7.30	1,036.00	488.00	69.60	64.30	93.30
Aston	<input checked="" type="checkbox"/>	4.02	2.40	365.00	6.02	895.00	675.00	63.60	78.10	91.00
Southampton	<input checked="" type="checkbox"/>	3.91	2.70	407.00	7.14	1,154.00	440.00	74.60	76.50	93.70
SOAS	<input checked="" type="checkbox"/>	3.82	2.60	378.00	9.26	1,520.00	253.00	73.20	73.50	82.50
Bristol	<input checked="" type="checkbox"/>	3.72	2.70	447.00	7.52	1,386.00	307.00	81.50	82.00	95.70
King's College London	<input checked="" type="checkbox"/>	3.74	2.70	415.00	8.62	1,589.00	320.00	72.80	83.20	92.30
Loughborough	<input checked="" type="checkbox"/>	4.13	2.60	360.00	5.78	744.00	496.00	67.70	75.70	91.40
Nottingham	<input checked="" type="checkbox"/>	3.79	2.70	408.00	7.25	972.00	382.00	74.30	76.30	95.70
Lecester	<input checked="" type="checkbox"/>	4.13	2.50	360.00	6.76	970.00	480.00	71.60	76.20	93.00
Exeter	<input checked="" type="checkbox"/>	4.15	2.60	394.00	5.68	987.00	364.00	79.40	71.70	91.50
Royal Holloway	<input checked="" type="checkbox"/>	3.89	2.70	395.00	6.95	868.00	389.00	70.30	69.80	92.90
Sheffield	<input checked="" type="checkbox"/>	3.88	2.70	436.00	6.90	963.00	354.00	74.50	79.10	92.20
Newcastle	<input checked="" type="checkbox"/>	3.84	2.60	405.00	6.71	1,097.00	398.00	72.20	79.40	92.30
Sussex	<input checked="" type="checkbox"/>	3.88	2.60	378.00	6.41	795.00	333.00	81.70	70.60	90.10
Glasgow	<input checked="" type="checkbox"/>	3.80	2.60	412.00	7.41	933.00	511.00	71.30	75.40	86.70
Birmingham	<input checked="" type="checkbox"/>	3.89	2.60	403.00	6.54	1,216.00	401.00	70.90	72.70	93.70
Manchester	<input checked="" type="checkbox"/>	3.67	2.60	412.00	6.89	1,136.00	362.00	70.40	73.80	91.60
Leeds	<input checked="" type="checkbox"/>	3.82	2.70	382.00	6.94	851.00	385.00	73.40	71.10	91.90
Essex	<input checked="" type="checkbox"/>	3.87	2.60	302.00	7.25	1,050.00	413.00	61.00	62.70	87.40
Surrey	<input checked="" type="checkbox"/>	3.80	2.60	352.00	5.88	858.00	347.00	65.10	80.00	88.80
East Anglia	<input checked="" type="checkbox"/>	4.00	2.60	361.00	5.65	866.00	401.00	70.10	71.90	85.50
Queen's Belfast	<input checked="" type="checkbox"/>	3.90	2.60	358.00	6.54	865.00	511.00	69.00	78.30	85.00
Liverpool	<input checked="" type="checkbox"/>	3.77	2.60	397.00	6.13	1,196.00	286.00	69.80	72.60	91.20
Reading	<input checked="" type="checkbox"/>	3.91	2.50	347.00	6.02	709.00	343.00	75.40	68.70	91.70
Cardiff	<input checked="" type="checkbox"/>	3.75	2.70	394.00	6.71	927.00	253.00	66.80	77.60	92.50
Heriot Watt	<input checked="" type="checkbox"/>	3.79	2.60	318.00	7.81	641.00	178.00	65.20	69.00	85.60
Goldsmiths College	<input checked="" type="checkbox"/>	4.00	2.60	317.00	5.88	733.00	412.00	61.70	71.00	87.80
Kent	<input checked="" type="checkbox"/>	3.80	2.50	350.00	6.33	832.00	391.00	65.50	76.20	80.30
Hence-Watt	<input checked="" type="checkbox"/>	3.73	2.50	393.00	5.21	1,118.00	254.00	74.00	78.10	83.20
Strathclyde	<input checked="" type="checkbox"/>	3.80	2.30	319.00	5.71	1,080.00	423.00	64.50	67.90	86.30
Brunel	<input checked="" type="checkbox"/>	3.92	2.40	319.00	6.90	808.00	331.00	64.40	70.40	89.10
Queen Mary	<input checked="" type="checkbox"/>	3.92	2.70	346.00	7.46	978.00	328.00	64.20	77.90	88.50

Figure 9.1. The Data Viewer of Frontier Analyst Professional

In the previous discussion I emphasised the point that different observers need not agree on whether a particular variable should be considered an input or an output. What, to one person, may seem like a cost, and therefore be counted on the input side, to another may appear as a benefit, and an outcome which is desirable. Similarly, there is no reason why different stakeholders, with different interests, would necessarily agree over which variables were controlled inputs, and which were uncontrolled. To the hard working student, the entry requirements may seem to be an input that they have brought to the process, and to the student who has found upper secondary schooling less of a labour, they may be a proxy for status and reputation, and therefore be seen as an output that is much to be desired. But to the student who is interested in the quality of the process in the classroom, high entry grades may be an input to the teaching process which will help to create a stimulating environment, but control of entry grades may be seen as beyond the control of the university itself and be imposed by the general supply and demand pattern in the country, or region. That would make them an uncontrolled input.

Therefore, the single variable, required entry qualifications, may arguably be seen as a controlled input, an uncontrolled input, an output, or completely irrelevant, depending upon the values that one holds about the processes of higher education. Of course, the point is that if we think about benchmarking as an individualised process, rather than any kind of national league table that is done once and for all for everybody, we can see that there is no need to agree whether any particular variable has a specific role in the process. If the data were available to every prospective student, together with the DEA program, each person could conduct their own analysis according to his or her own view of what was important.

Similarly, in [Figure 9.1](#) there is a tick box next to each institution indicating whether or not it is ‘active’ in the current analysis. The individual user could choose to run the benchmarking exercise with a selected group of institutions, for example those in a particular geographical region, or those offering a course in a specific specialism. It is relatively easy to imagine one prospective student wanting to benchmark institutions which offer a programme in biology within 50 miles of Huddersfield, using entry qualifications as an input, and employability measures and the proportion of good grades in the final examination as the outputs, while another prospective student might wish to benchmark all institutions nationally using cost of living in the surrounding community and level of student fees as an input and the proportion of classes with fewer than 25 students in as an output. And a programme like the one used here does not simply give ‘an answer’, as to which institutions are the benchmark; it provides an analysis as to how each of the other institutions measures up to each of the benchmarks, so that the prospective student can start to consider possible trade-offs between desirable characteristics.

Because of this capability for being tailored to individual needs, rather than producing the output as a league table, I call this approach ‘positive benchmarking’, to contrast it with the models in current use. Technically it is well within the range of what is currently feasible. A web-based portal driven by DEA software with access to a database of information about institutions and/or departments is not particularly complex compared with what we see on the Internet

every day. The database would need to be extended beyond the relatively narrow range of indicators that are used in current league tables, but the availability of data is rapidly increasing as national systems of higher education are required to become ever more transparent.

In short, positive benchmarking is well within the technical capabilities that we have available. Moreover, it offers a wonderful research opportunity. By monitoring how people use positive benchmarking it would be relatively easy to study what value they attach to various indicators of performance in higher education institutions, and whether they see them as inputs or outputs of the process. What is lacking is a business model to support such a basic activity; individualised messages do not sell newspapers and cannot be handled by mass media. Perhaps we will have to see the fuller development of Web 2.0 and Web 3.0 before we see interactive benchmarking tools of the kind envisaged here. But with systems to process micropayments, and the cost of designing and hosting a website plummeting, with any luck we will not have to wait long.

Above all, this approach to quality, about developing the correct link between teaching and learning, and developing a personal approach, would help to create a disposition with which students could more realistically approach the task ahead of them.

As I have noted earlier, the two activities that are currently seen as the bedrock of the purpose for a university are teaching and research. However, these are relatively recent concepts, added to an earlier concept of scholarship – of personal commitment to development through the acquisition of knowledge. The separation of these two concepts, and the development of a body of knowledge which is managed by an external community ('science'), has led to the view that there is an important division between the processes of research and teaching. Research is thought of as involving original breakthroughs in the development of original knowledge, whereas teaching is supposed to involve the transfer of that 'product' to other individuals who were not involved in its original discovery.

That conceptual separation of research and teaching supports discussion of different kinds of universities – research-led institutions and teaching-led institutions – with differences of opinion being expressed as to whether there is too much emphasis on one aspect or the other in appointments and promotions. At the same time there has been a backlash against that conceptualisation, with some scholars arguing for the inseparability of research and teaching. Just what the relationship between research and teaching is, or should be, is a matter that is hotly disputed, a situation that is not much helped by over-simplification of the relationship. In the 1960s educationists went so far as to suggest the direct identity of research and learning, as in the Nuffield Science programmes, where pupils were encouraged to think of themselves as scientists. This is, of course, nonsense in the sense that the situation of the student learning a subject is very different from pioneering researcher.

The teacher who wishes to present a topic to a class has a wealth of knowledge at his or her fingertips which was unknown to the scientists who made intellectual breakthroughs in the subject. One of my favourite scientists is John Dalton, one of

the first people to recognise that he was colour blind. What is interesting about this work was the imaginative leap, from a number of perplexing situations that involved colour, to a reorganisation of those separate incidents or facts through the introduction of a new conceptual framework. This recognition that his perception of colour was different from that of most people, although similar to that of his brother, led to a fuller understanding of how people perceive colour. There is no need for every person who learns about the perception of colour to work out that conceptual framework for themselves, and indeed, it would, in fact, be impossible for most people to have the same experiences as John Dalton who first made that imaginative leap. Indeed, anybody who can entertain the concept of colour blindness, anyone who can put a meaning to the words 'colour blind', is already across that imaginative leap, and will have difficulty imagining a world without that concept.

It would be nonsense to expect every student to learn the concept of colour blindness *de novo*. The world, the scientific community and the individual teacher already have the concept. So the position of the person learning the concept afresh is not at all parallel to that of John Dalton. On the other hand, what is true is that such knowledge cannot be transferred merely verbally, or telegraphically in some way. The learner who confronts this concept for the first time will need some kind of experience in order to make the knowledge their own. They might be shown common settings illuminated with different colours of light, and discuss the differences. They might be shown eye tests for different kinds of colour blindness and invited to think about how they work. They might be shown a monochrome photograph and a colour photograph and have the idea of colour blindness explained. Or they might be given an image in a computer program and invited to consider the effect of changing the colour balance on the image. They might even, simply, be willing to accept a brief description from the teacher. But in one way or another they will need an experience that makes the concept personal to them. We can support that process as teachers, without controlling it, but without expecting every student to have the life experiences that led Dalton to his original discovery.

The same will be the case for every area of knowledge, from the study of the fossil record to studying the behaviour of people in groups. The teacher will have the advantage of knowing the history of the development of the study, will know the main hypotheses that have been advanced to explain the phenomena, will know where to look for the crucial evidence that has led some of those hypotheses to be discarded, and will have an additional range of tools that have been specifically developed to support learning. Even with all that supporting knowledge, however, the student will still need some experience, some reflection, and some re-organisation of previously learned knowledge, in order to make that learning their own. And ultimately only the student himself or herself is in a position to say whether the experience has been effective or sufficient to convince them, and to persuade them that it is important. And this is not necessarily a once-for-all-time decision. I might be happy to accept the theory of plate tectonics today, because my teacher tells me it is so. But I may want to see detailed geological maps of the coasts of Africa and South America later as I become curious about the details of the theory I have accepted.

In this sense the position of the learner and the researcher are analogous, to the extent that all knowledge is provisional, that standards of proof will depend upon personal experience, and that revisiting crucial evidence is always an option.

Vygotsky draws a useful distinction between ‘history’ and ‘science’; history relates to personal history, to the unique and indescribable set of subjective feelings through which I come to know about the world, while science relates to those generalisations and regularities that describe the experience of all of us. Thus cartography is a science, which relates to the drawing of maps, the use of projections and scales, and symbolic representations. But I can only learn about cartography through specific, concrete and unrepeatable experiences of specific maps and specific pieces of landscape. As a teacher, I have hold of science, but I cannot ‘transmit’ it to my students as science; it has to be mediated though our personal histories, as I try to create experiences that in some way represent that science, and the student, if I am lucky, makes strenuous efforts to reconstruct that science for himself or herself, through the interpretation of his or her own history.

That is the nature of the relationship between research and teaching. They are in one sense the ‘same thing’; they are the transformation of personal history into shared science. But beyond that, they are not only completely different, they are totally incommensurate, in the sense that each of our personal histories is subjective and incapable of being shared. However there are some systematic differences, some beginnings of a science of histories if you will, in the sense that the process is different for the pioneers who make a conceptual breakthrough, than for those who are told about it and learn about it later, and different again for those who have been brought up with a particular body of knowledge always assumed in the background. I think that it is on this sort of systematic difference in personal histories that Prensky (2009) bases his distinction between digital natives and digital immigrants, although I suspect that he makes too much out of that particular difference, and how it might affect subsequent learning possibilities and behaviour.

Because there are such systematic differences in the way in which individuals can use their personal histories to distil knowledge, teachers should know as much as possible about the processes of creating knowledge in their own subject area, ranging from a reflective understanding of their own engagement with the subject to an up-to-date understanding of the latest developments in their field, and ranging over the history of the development of study in their field, an understanding of and engagement with the social processes whereby a collective understanding of the field is developed, including the mechanisms of specialist journals and conferences, and as full an understanding as possible of how novices learn in the subject area and the variety of support materials that might be used. Naturally, no one teacher can span all those areas equally effectively, and one teacher might be more directly engaged in the processes at the cutting edge of their field, while another might be more knowledgeable about the computer games that can be used to present basic concepts to novices. And, as noted above, only the student can ultimately decide whether the teacher they have is the teacher that they need. However, the need for the teacher to engage with a spread of scholarship from the novice to the expert does mean that attempts to completely separate teaching from

research are fundamentally suspect. Specialist teachers, who have no engagement with research, are less likely to have that personal sense of engagement with their field of study, and are therefore more likely to see their task as the simply 'transmission' of a received body of knowledge. (There are obviously honourable exceptions to this generalisation, even though it remains valid as a generalisation.)

No education can be counted as successful until the importance of the personal relationship between the learner and what is learned – the scholarship of the learner – is acknowledged and given a place. Sadly, our education system at all levels tends to undervalue that relationship. John Dewey noted, I think more in sorrow than in anger, that it was possible for young people to study the geography of the Mississippi River, without ever actually considering that there was any connection with the muddy stream of water that flowed through their town. It is also reputed to be the case that, even after watching television broadcasts of men landing on the moon in 1969, there were children who failed to connect that information with the (more or less) crescent shaped object that they could see in the sky most nights. In each of these cases pupils learn something, but fail to connect it up with their everyday experience, leaving a clear demarcation between school knowledge and real life, which never becomes integrated around their own personality.

For some reason I am reminded of my mock O-level examination in biology in 1965; in one of the questions we were given a mirror and invited to sketch and label what we could see of our own eye in the mirror. I cannot remember how many, but more of us than you might imagine, answered the question by drawing and labelling the standard cross-section through the eye that can be found in any textbook of biology, showing the positions of the lens, retina, optic nerve and so on – all perfectly correct, but not visible in the mirror. A group of young boys who had been selected for their academic ability apparently found it difficult to come to terms with the idea that they had been asked to present things from their own perspective, rather than for an impersonal and objective answer.

Some indication that this disconnect between the personal and the objective is a systemic feature of formal education, and not some kind of aberrant side effect, can be found in the fact that many students, given the opportunity to manage their own learning, become resentful and insist that the teachers should 'do their job' and parcel up the knowledge in suitable packages to be taken away. Some students like to be 'spoon fed' and find it uncomfortable to be asked to engage with the subject area in a more personal way. For this reason, we have to be particularly careful with student feedback as a way of evaluating the quality of higher education provision, as, for example, in the National Student Survey in the UK. While the student is the only final arbiter on whether the educational process has been successful, and whether further learning is desirable or necessary, we need to recognise that some students may be applying criteria which are not well-aligned, perhaps may even be diametrically opposed to, the educative purpose of the institution.

Before we can depend on such feedback on quality, we need to be sure that the students are being provided with the self-knowledge to understand what is required of a productive education, and the skills to help themselves achieve an appropriate

stance in relation to the available subject specific contexts they are being introduced to. And positive benchmarking could be a highly beneficial process in both aspects, providing knowledge in a digestible form, and underlining the fact that there is not one answer to this relationship, but that each of us has to work out where and how we connect with the body of wisdom valued by our society in our own way.

Because it is relatively easy to frame questions such as, “What is the meaning of life?” or “What is a university for?” or “Which university represents the pinnacle of quality in higher education?” we are sometimes seduced into thinking that there should be equally simple answers. In fact, of course, the answers may be stunningly complex, or simply not exist at all, and we should be suspicious of those who have too ready an answer. Quality, like life, is a multi-dimensional phenomenon which generally defies simple solutions. An institution that could provide me with a high quality education today may not be able to do the same for you, or for me in five year’s time. And this is a statement about the way each of our approaches to learning is path dependent and specific to the part of our personal history that we are on at the time, not about possible heterogeneity in the institution itself.

With these thoughts in mind, I move into the final chapter, and summarise conclusions about the quality of higher education and its measurement.

CONCLUSIONS

What has been shown through the discussion of various aspects of quality in higher education is that education as a whole, but perhaps higher education in particular, defies simple description as a 'product'. It is partly a private good, partly a public good, and partly a positional good. It is partly investment, in the sense that it develops the person to play an active economic role in society. At the same time it is partly consumption, providing pleasure and fulfilment, and in many cases serving as an end in itself. It makes people more productive, but at the same time it provides multiple ways of signalling to other people in society aspects of ourselves that are not directly affected by formal education. And, although we speak of 'delivery' of the curriculum, education is never really delivered, as revisiting past educational experiences and reflecting on them can always produce new and unexpected twists. Higher education is something on its own, *sui generis*, and any attempt to capture it in a metaphor is likely to distort our understanding of it.

Education stands at that boundary between the internal, subjective, unique personal history of each individual, and the social, collective and objective (or at least inter-subjective) generation of publicly available knowledge. Perhaps ironically, it involves the repeated engagement of the unique and unrepeatable life-paths of individuals, in order to make it possible for knowledge to be enacted by one person and internalised by another, a process which we crudely describe as 'delivering' or 'passing on' understanding.

"The sociological imagination enables its possessor to understand the larger historical scene in terms of its meaning for the inner life and the external careers of a variety of individuals" (Wright Mills, 1959: 5). Nowhere is this interaction of the inner life and the external career more evident than in education, which is why neither psychology nor sociology alone can ever apprehend the full import of education, and why the study of education is the key locus of the social sciences. This quality of education at the boundary of the personal and the social makes it extremely important to recognise the distinction, when discussing quality, between quality assurance and quality enhancement.

The English language is rich in meaning and nuance, but not all of its range of distinctions are used to good effect. A life assurance salesman once explained to me that life assurance is different from fire or accident insurance, because assurance deals with something that is inevitable, namely death, while insurance deals with things that are only possible. Quality assurance, on this model, would involve dealing with the inevitable deviations from high quality that will occur in a process. In terms of production processes, this might be compared with a company that sets up its machines to produce washers that meet a particular specification, and then at the end of the process tests all the washers and discards those that do not meet the specification.

In practice, the end-of-production-line approach to quality would be absurd, and it would be much better to (a) build up some picture of the pattern of distribution of near-errors in the population of washers, and then (b) anticipate when the process was drifting towards a situation in which a lot of reject washers were about to be produced, (c) correct that drift towards failure when it is detected. This would be a typical, industrial, if rather old-fashioned approach to quality assurance. It is product oriented, and there are obviously great dangers in attempting to transfer it to educational settings, because people are individual and cannot be churned out like washers. However, there are overtones of this approach in some of the approaches used by government agencies to promote quality assurance, popularly derided by teachers, who point out that one cannot fatten a pig by weighing it.

In industry there has been a move away from models of quality assurance of this kind towards a concentration on process, and on continuous improvement of standards, through the engagement of all staff in the manufacturing process. Essentially, these are quality enhancement approaches, although they may be called other names, such as 'total quality management'. Quality enhancement focuses on the processes involved and the participatory nature of quality improvement, while quality assurance focuses on product and the application of quality standards after the process is complete. Of course, these two approaches are not totally distinct, and represent a difference in emphasis rather than constituting two mutually exclusive categories.

This is not simply a matter of changing the labels attached to things, of course. An emphasis on 'student experience' may sound like a concern for process, but if student experience is interpreted narrowly, as the responses of students to a satisfaction survey after the event, this remains a quality assurance procedure, and not a quality enhancement procedure.

Because what happens in education engages the internal lives of the learner, the teacher and the peers of the learner in unique and unpredictable ways, education cannot be managed or controlled in the way that washer production can be. Worse than that, attempts to apply quality assurance models can be counterproductive, in the sense that they produce a formalism of uniformity and an indication of conforming to standards, while in practice variation is displaced underground and ignored. This might be called a 'tick-box culture', where it looks as though standardisation is being achieved, but in fact there is no real engagement with quality issues. Higher education cannot be managed and controlled as though it were a production process and attempts to do so can only distract people from the real quality issues. Since higher education is happening in the personal lives of individuals in lecture halls and seminar rooms, corridors and coffee bars all around the world, the only way to ensure that the process embodies a commitment to quality is to encourage a commitment to quality enhancement among all individuals involved, whether they are students or librarians, janitors or professors, and to acknowledge that each person needs to be given the scope to make their contribution in their own specific way. This is not a plea for an abstract principle, such as academic freedom, but a recognition that learning situations are complex

self-regulating situations and need to be nurtured in ways that are not captured in metaphors of delivery and the application of external standards.

How one views quality management, whether as quality assurance or quality enhancement, will shape the way that one thinks about its proper institutionalisation. Quality assurers are more likely to think about quality in institutional terms, requiring procedures to regulate accountability for standards, while quality enhancers are more likely to think in terms of professional practice that engages the individuals in critical reflection on self-improvement. This is a contested area, with governments and government agencies, sometimes supported by institutional managers, preferring quality assurance, and the vast bulk of academics, and especially educational developers, favouring quality enhancement.

The evolution of quality structures in the UK illustrates the interplay of such forces at work. In 1992 the UK government introduced legislation to allow the polytechnics to become universities. At that point it was clear that the government, or the funding councils as agents of the government, saw the need for quality assurance mechanisms to ensure that standards were maintained, a fairly open commitment to quality assurance. Seeing this as a threat to institutional autonomy, institutions established the Higher Education Quality Council (HEQC). The HEQC was committed to preserving institutional autonomy, by concentrating on self-audit processes of quality enhancement at the institutional level. This pre-emptive move by the universities did not, however, satisfy the funding councils, and in 1997 the Quality Assurance Agency for Higher Education (QAA) was established. While this moved the balance towards quality assurance, an organisation should not be criticised simply because of its name, and the QAA remains committed to aspects of quality enhancement. Indeed, the views expressed in the recent select committee hearings suggest that government would like to see the emphasis in higher education quality moved much further towards quality assurance than the QAA has hitherto required (House of Commons: Innovation, Universities, Science and Skills Committee Publications, 2009).

In 1999 the Institute for Learning and Teaching in Higher Education (ILT) was launched. This was a membership body that brought together those with responsibility for enhancing learning and teaching in higher education, mostly teachers and lecturers, but also librarians, computer support advisors, counsellors and so on. The model was of a self-regulating professional body that was intended to encourage members of faculty to engage with quality issues in their own teaching, learning support and assessment practices.

About the same time, the funding councils supported the development of the Learning and Teaching Support Network (LTSN), which comprised 24 subject centres and one generic, learning and teaching centre. The subject centres provided a basis for networking between academics with common disciplinary interests, supported the enhancement of learning and teaching, published materials, and disseminated information about good practice. The generic centre stimulated a good deal of activity relating to the enhancement of teaching and learning across higher education, bringing together educational developers from many institutions to share experiences, information and ideas.

The model for both the ILT and the LTSN was of reflective practitioners engaging with quality enhancement. In 2004 the funding councils brought together the ILT and the LTSN, together with the Higher Education Staff Development Agency (HESDA), to form the Higher Education Academy (HEA). The governance structure of the new HEA was modelled on that of HESDA, being funded, and effectively owned, by the institutions and the funding councils. It lost any real engagement with practitioners at a grass roots level when the membership structure of the ILT was abandoned, and the generic learning and teaching centre was closed, although the subject centres of the LTSN continue to do good work in specific discipline areas. In 2010 the HEA decided that the LTSN would be closed down as part of the round of cuts imposed by the government, finally severing the links with higher education teachers as practitioners.

One can see in this evolution that top-down structures tend to emphasise quality assurance and alienate individuals, while bottom-up organisations tend to emphasise quality enhancement and the engagement of professionals. Institutions may be strategic in pursuing their own goals, but are more likely to be concerned about the threat to their own autonomy posed by government agencies than to have any real concern for the professional development of the teachers they employ. They are more worried about the appearance of quality (as evidenced by league tables and Web 2.0 sites) than about what actually happens in the teaching rooms.

The argument of those who advocate quality assurance over quality enhancement is that the public accountability produced by the processes of quality assurance will act as a spur to the professionals involved, and as a mechanism by which the ‘discipline of the market’ can be transmitted to the classroom. There is very little evidence to support this belief, though a good deal of anecdotal evidence that the lack of trust implied in quality assurance procedures is more likely to bring about loss of morale and disengagement.

Although these forces and sectional interests can be seen fairly clearly in the UK, where the functions of the government ministry, funding council, quality agency and individual institutions are fairly clearly delineated, this exchange is likely to be played out differently in different national settings, especially where the ministry responsible for higher education assumes a managerial and inspectorial responsibility for what happens in universities.

When I first visited Japan some fifteen years ago and discussed the organisation of the system of higher education as a whole, I was not infrequently told that the ministry *was* the senior management of the universities, and that consequently it was not possible to trace any conflict between national and institutional interests. Since 2004, and the incorporation of universities as free-standing institutions, Japan has come to look much more like the UK, which has indeed served as an explicit model for Japanese reform in some aspects.

National differences will thus be displayed in the way in which tensions and conflicts can be addressed. But the fact that higher education is a crossing point between the personal and the social, the emotional and the rational, the learner centred and the subject centred, will be the same everywhere. Neither the teacher nor the learner can be completely in control of learning, since the learner can only

have a vague idea of what it would mean to learn something before they have learned it.

My conclusion is that no system, and no tutor, however benign, can ultimately ensure that the learning experience is properly integrated and tailored to the needs of the individual learner, and that the process must therefore rest in the hands of the learner. This does little more than recognise the facts of the case, that you cannot force somebody to learn if they are determined not to. Teachers have always known that you can lead a horse to water but cannot make it drink, but the full force of that understanding for how education should be organised has never been followed through to its logical conclusion.

That is not to say that teachers and institutions can be absolved of any responsibility to provide quality environments, support and teaching. But these should be at the disposal of the learners who are engaged, and this should be on a continuous, interactive basis, not summed up in a student survey at the end of a year or three. But the students will hardly be able to manage their own relationship with their studies if they do not know that that is what they are supposed to do. The real damage that quality assurance as presently conceived does is to legitimise and popularise a discourse that treats education and/or its quality as 'deliverables' that can be 'provided' to 'customers' in a sequence of 'course offerings'. If that is the discourse that we recognise and engage in, we can hardly complain if students look for the most effective 'suppliers' and wait for a high quality education to be delivered to them.

Teachers may play a number of roles in the educational process. They may inspire and motivate, act as a guide and mentor through the subject area, provide critical evaluation of the student's work or simply provide information. Even in this last role, they are unlikely to be successful if the student has not recognised that they need the information, or has not recognised that the information provided is the information that they need.

It is unusual to find teachers who can fulfil each of these roles in turn, and impossible to find one who can perform them all at the same time. But that is not so serious; once a student has been inspired and motivated, they can tolerate a good deal of dullness in their mentor and guide, or fount of information. The teacher that a student needs at any particular time will change. Again, that may not be serious, especially in higher education, because teachers can often be encouraged to play the role the student wants, if only the student can find a way of communicating what that is.

A quality higher education system must create the flexible spaces in which these functions can operate, both for learners and researchers, so that people who wish to learn can seek out the support they need in some way. The problem that we have is that we spend so much time concentrating on either the provision of information function or the provision of critical examination (especially in assessment at the end of the year), that we, and students in particular, tend to overlook the interconnection between these aspects, and most particularly how they can use the critical evaluation of their performance to help them manage their next development. I do not think that, for the most part, this is the outcome of malice on

the part of teachers. How often have you heard a speaker say at the beginning of a lecture, “If you have any questions as I go along, please stop me and ask me”, only for this to be followed by a lecture that lasts forty minutes or an hour without interruption? The speaker is probably genuinely concerned to make sure that the audience gets the experience they want and need, but does not know how to provide it, while the audience either assumes that the function of the session is the transmission of knowledge, or fears they will make a fool of themselves if they actually dare to ask a question.

This tendency can only be exacerbated if we talk about higher education as though it were a product to be delivered, and talk about quality in terms of audit trails to identify good practice. I have suggested that we actively encourage students to think of their education as an experience that they have to construct for themselves, and that positive benchmarking, as a way of suggesting that education must be tailored to personal and changing needs, would be a step in the right direction. I have developed that theme at some length in Chapter 9.

Of course much more will need to be done, to encourage teachers to understand that the transmission is only a part, and probably a small part, of their function, and to encourage learners to embrace the often daunting task of managing their own learning. It will, however, create a more structured link between teaching and research, building a stronger sense of scholarship, as both learners and researchers realise that their primary task is to engage with the creation of their own personal view of their chosen subject area, and that there are no reliable guides who know exactly what that should look like. Of course there will then be issues of quality in learning support, but they should be addressed directly through the teachers, the learners and the institutions doing their best to enhance quality on a day by day, minute by minute basis.

We have come to accept, perhaps somewhat reluctantly, that career patterns have changed, and that individuals need to assemble a portfolio of skills and employment that will allow them to earn a living. This has been forced upon us by changing employment patterns, but it also brings to the surface the fact that, in some ways, this is what people have always done inside the structure of jobs for life. People have developed skills and reputations that have enabled them to go on and do something else that they wanted to do, making a transition within something that would then have been described as a career, but might today be characterised as a change of career.

Perhaps it is time that we started to think about higher education in a similar way, as a portfolio exercise, in which learners gather together the knowledge and skills that will satisfy their curiosity, provide them with a professional identity, or enable them to live the way that they choose. In part, this would be a recognition of what people have always done in higher education, avoiding topics they could not see the point of, bringing in outside experience to support their academic development, and concentrating on the things that they found interesting, important or ‘easy’. But it also has a normative aspect, suggesting how education ought to be. Becoming a geographer or engineer is different for each person, and ought to be different for each person. What is important is the way that the individual puts

together the relationship between himself or herself and his or her knowledge. If we started to think about higher education in those terms, rather than as a package to be delivered, we would realise how empty, and indeed how counterproductive, much of our current discussion of quality and rankings is.

All of us who work in universities have a responsibility to understand the history and traditions of the institutions that we work in, not so that we should be bound by those traditions, but so that we can respond appropriately to shaping and changing them, and making sure that universities make the best contribution they can to the societies that support and maintain them. Ignorance of those traditions may not only lead to the discarding of aspects that are valuable, but may lead to the freezing or over-simplification of issues that need revision over time.

It is, for example, only too common to hear appeals to ‘academic freedom’, as a defence of academic postures that are indefensible, without recognising that the concept is not an indivisible monolith, and incorporates (at least) two identifiable concepts, *lehrfreiheit* and *lernfreiheit*: the freedom of the teacher to teach who and what they select as appropriate, and the freedom of the learner to study what they choose. It is clear that in the modern age of mass higher education and open access, the freedom of the teacher arbitrarily to choose who to teach is circumscribed, as indeed it ought to be, while even if they may ultimately control what they teach, that too may be circumscribed by procedures and national benchmarks designed to ensure that *lehrfreiheit* is not seen as an excuse for academic whimsy. A blanket appeal to a slogan of ‘academic freedom’ is therefore likely to imply too much, at the same time as increasing the risk that important aspects of those freedoms will be lost because their defence was not sharply enough focused.

As academics, as students and as citizens, we devote substantial parts of our lives and a significant portion of our resources on higher education. Everybody involved should understand the nature of the process that they are engaged in, and not only that small segment of academia that have made higher educational policy their particular area of concern.

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