WHAT ARE THE CHARACTERISTICS OF WORLD CLASS UNIVERSITIES?

Mike Tremblay PhD

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1 Why bother?

The value of universities has always been recognised in all societies that they have existed, the oldest in India and China, and from the University of Padua and on in Europe. Universities were one of the first major institutions formed in North America, and at a rate that exceeded the European pace. Government, too, have recognised the key value of universities, and more recently realised that their own economic policies can have both positive and negative impact on the health of the university sector. The notion of world class universities has emerged as we have increasingly realised that successful and effective universities permit countries to 'punch above their weight' through research and teaching success. Increasing mobility of people, demands for advanced study, and the dynamics of the research community, driving forward in areas such as high technology, and biotechnology have heightened awareness of the role universities play in dynamic societies.

The new technology sectors and the venture capitalists have learned from universities and now fund 'incubators' to help researchers take their work toward commercial interest. Start-ups exist within research clusters — Silicon Valley, Silicon Fen, Genome Valley — attempting to replicate the communitarian attributes of successful universities (for it was largely in this way that universities themselves came into existence in the first place.)

Indeed, because strategic alliances are so important, a useful start is to recognise and build on the strengths of relationships already established and ongoing, rather see universities in isolation from the rest of society and the economy generally.

Why would we want to develop universities that are unsurpassed in any part of the world?

- To use the ever-expanding frontiers of knowledge and the astonishing advances in technology to create the highest quality of research and teaching; and

- To serve our students and our national, regional and global communities at the leading edge.

Some questions…

Should government do more than provide financial support in the quest for world class universities? Should the initiative for university development be allowed to continue to influenced by political elites in society, or should greater efforts be made to ensure university independence and protect the essentially meritocratic attributes of teaching and research communities?

2 What is a university for?

In the UK, the Higher Education Funding Council for England, in its submission to the Dearing Committee, in 1996, said that it believes that the purposes of higher education described by the Robbins Committee more than 30 years ago to still be valid today. The HEFC observed that universities are now much more focused on preparing young people for working life, and responding to the needs of industry.

This success, however, leaves unresolved a tension between these more utilitarian roles and other roles that have less an economic impact, so that higher education is not just viewed as an employment filter, nor just focused on preparing people for their first job. To that end, HEFC proposed in 1996 that the purpose of higher education is to focus on:

- Civilisation and values
- Developing, storing and transmitting knowledge
- Meeting the needs of the economy and industry
- Meeting the aspirations and needs of students
- Serving local and regional communities
- Higher education as a tradable activity.

Within the broad thinking about higher education, these views are not unique to the UK but are central to what is widely held to be the purpose of universities today. However, and importantly, other countries have adopted different strategies to achieve these objectives, often with greater success and with greater (or lesser) impact. It would certainly be a mistake to approach the question of world class universities, and the steps taken by other countries, perhaps more successfully, without learning from the actions of others, and even be prepared to jettison thinking which clearly does not work in this respect.

Universities largely predate civil society, and are only exceeded in longevity by the major organised churches. Historically, therefore, one could argue that university success has occurred independently of the largesse or even existence of civil society.

Some questions…

Why then, today, do we even feel that universities should be subjected to the constraints of civil society when their historical success has been independent of it? Have we not created conditions in modern society that have actually constrained the traditional forces which have ensured university success, and indeed world class success; have we not now created the social conditions for academic mediocrity when we wanted excellence all along?

3 Why is new thinking needed?

World class universities do exist, most notably in the US, and the presence of these institutions is felt globally. Clearly, there are lessons to be learned from the US approach to university structure, financing, research and teaching. Other countries have world class universities, but not many, and emerging countries such as China and others in Asia-Pacific are preparing to ensure that their institutions are world class, as a strategic response to globalisation.

The UK faces specific problems as it considers the way toward world class universities.

Indeed, the very idea of world class universities in the UK suggests that some universities just won't be world class, and this fact is immediately in conflict with the gold-standard approach to UK higher education, that all universities are equally worthy of a students attention and of research funding and public support.

Having said that, the UK has moved toward research funding following research excellence through the research selectivity exercise. Rankings of UK universities are available when they are compared to their European counterparts. But it is observed that UK universities see themselves compared more favourably with the very best US universities.

Therefore, what makes the US university environment a better incubator of world class universities than approaches taken in other countries? Various observers have reflected on this recently with the following suggestions all of which ultimately turn on financing.

3.1 Failing to invest in universities undermines long-term economic and social progress [Coggins]

Professor James Coggins left the UK to work in the US, and he has reflected on the state of UK universities in the Financial Times.

He observed that many of the traditional concerns expressed fail to tell governments why they should be careful to maintain and advance the priority of their investment in universities. He saw three reasons why funding, indeed substantially increased funding, for higher education should remain a high priority for governments:

1. *Higher education prepares the intellectual leaders, creative innovators, and the educators of the next generation.* Coggins sees the modern world characterised now more by economic competition than war and conflict, and that success in this new international environment was the new wealth creator, as well as offering greater influence over world affairs. But since there is a natural time lag in developing people through higher education, delays in the present, or issues that are not addressed in the present, will emerge in the future as major problems or crises. However, the delays in solving problems contribute to the potential for more rapid decline in influence and capabilities of universities, and such decline can decades to recover.

2. *University research explores the ideas and innovations that will fuel the economy in the next generation.* It is becoming better understood how innovation and creativity are fostered, and that importantly much innovation begins with an idea with no commercial application or interest. Academic environments, and other settings, which are dedicated to similar pursuits, offer the most conducive environment for innovation to foster without the commercial imperative. Coggins notes that the economic benefit of university research is difficult to measure, but reports have indicated a 4 to 1 return.

3. *Universities provide a pool of knowledge and expertise that can be called upon to legitimate government action.* Coggins sees this as the key social role of modern university activity. It is relatively recent that policy development and legislation have increasingly been built on a scientific basis, with much of this advice and research coming from universities. Universities are independent and offer governments and others a neutral, though often difficult, partner in exploring policy and change. This independence is important, and always has been, and is often the key feature most at risk when governments seek to increase the social pay-back

of university investment – a return often seen in the shorter term, rather than the longer term.

3.2 Failing to improve academic pay in the UK will lead to a recruitment crisis and undermine world class university development [Wolfe]

Another commentator, also writing in the Financial Times, Martin Wolf, has observed that the quality of teaching and research in UK universities is under threat, and Wolf also observes that there will soon be no world-class universities in the UK ("if there is one today") as a result. Like Coggins, he notes that decline in quality is often slow and therefore policy makers risk problems when they delay acting until it is too late.

Wolf focuses on academic salaries as the key problem. Since the early 1980s, academic pay has stagnated even when compared to other public sector workers, while average pay in the private sector has risen 14%. And amongst the most highly qualified private sector employees, comparable to university academics, the increase has been greater.

The consequences of this will follow a two-step process of decline: first, the ageing of the academics will result in large numbers of retirements as those recruited in the 1960s leave, and second, salaries will not be adequate to replace them with first-rate recruits. This leads to a serious reduction in the level of quality of university functions. Since the university depends on the quality of its teaching and research, as this declines, the effect will compound as degree courses and research decline and graduates experience poorer quality learning:

> If a country has no first-rate universities, research quality will fall and the supply of the highest quality graduates will also decline. Teaching is bound to be unsatisfactory if most students are far brighter than those who instruct them.

Wolf, an economist, doubts that the UK has any world class universities, and observes that judging from his own profession, it certainly does not.

3.3 Privatising universities offers new opportunities [Lal]

The economist, Deepak Lal, explained the details of university privatisation a decade ago, before he moved from University College, London, to the University of California.

He believed that this was possible, desirable, but unlikely to happen. The consequence, though of not doing this, he felt, would be the inevitable decline of UK universities nationally and internationally.

Some would argue that UK universities have a Faustian bargain with the government, and have thus fallen under the spell of central funding at the risk of greater freedom of institutional choice. As Rousseau would have observed, they have embraced mediocrity as a standard of excellence so that no *one* should stand out.

4 So what does world-class mean?

To be a world-class university is to excel on a number of fronts, rather than demonstrate excellence in specific or a narrow range of activity.

World class universities, as research institutions provide resources to support leading edge research, employ outstanding individuals, and maintain large, diverse and complete libraries. They have modern equipment, often unique.

World class universities are seen a research universities foremost, since it is with these institutions, if you like the knowledge value chain begins; these are the incubators of future possibilities, while other institutions may excel at teaching for instance, they transmit what others have already uncovered.

Academic staff are generally required to make significant contributions in their fields. And they are suitably recognised for their contributions with time and incentives.

A view from southern California…

> There are fewer than a hundred universities that are generally believed to be world-class. Roughly half are members of the Association of American Universities, the leading research institutions of the United States and Canada. Members of the AAU include private universities such as Yale, Harvard, USC and the University of Chicago, and public universities such as the University of Michigan and the University of California, Berkeley. Outside North America, one would include the universities of Tokyo, Oxford, Cambridge, and Moscow, the Sorbonne, and a few dozen others.
>
> Steven B. Sample, President of the University of Southern California

For universities, world-class standing is built on such subtle determinants as reputation and perception – across a broad range of activities. And the pursuit and maintenance of this world class status never ends once achieved. It is winning the Nobel prize, the Field medal, global recognition not just once but repeatedly, and pursing such arbiters of excellence with an obsession for excellence.

It is also a commitment to have as their highest value the creation and transmission of knowledge.

Research universities, as examples of world class universities, exist in the fiery cauldron that lies at the heart of nature's secrets and they, like Prometheus, bring forth that flame. In this way they generate progress in all areas of human endeavour, as well as offer education to the next generation of educational and research leaders. And they should also reach into the lives of their many students and into their communities to further an informed citizen.

The research university has a dual purpose: to produce the fundamental new knowledge which will generate scientific, social, economic and cultural progress, and to educate the next generation of teachers, researchers and other professionals, as well as an intelligent and informed citizenry in general.

All world class universities focus on the education of their students, through a wide range of academic programmes, which embrace both professional and extra-curricular dimensions — the whole life world of the student. Stephen Sample at USC said: "helping them acquire

wisdom and insight, love of truth and beauty, moral discernment, understanding of self, and respect and appreciation for others".

A profile of Stanford University, also in southern California…

> Enrollment in 1994 totaled 14,031, of whom 6,561 were undergraduates and 7,470 were graduate students. Stanford awarded 4,232 degrees in 1992-93, of which 1,730 were baccalaureate and 2,707 were advanced degrees.
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> The University includes the Schools of Business, Earth Sciences, Education, Engineering , Humanities & Sciences, Law, and Medicine, as well as numerous centers, institutes, programs, and laboratories.
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> Among the 1,398 faculty, there are 12 Nobel laureates, 97 members of the National Academy of Sciences, 162 members of the American Academy of Arts and Sciences, 61 members of the National Academy of Engineering, 16 members of the National Academy of Education, 19 winners of the National Medal of Science, 28 members of the American Philosophical Society, 6 Pulitzer Prize winners, and 14 MacArthur Prize winners.

The list below are characteristics of a world class university.

4.1 Quality of academic staff

World class universities are recognised as places that the best academics want to be.

These institutions act as magnets at a global level, drawing talent from all over. This means that every possible effort is needed to create the right climate for building this sort of environment. This includes not only pay structures, but openness of career progression in particular to higher academic positions, research and teaching support, and sufficient career security to encourage commitment.

4.2 Reputation for research

World class universities build reputional capital by focusing on research performance and investing in whatever is necessary to drive that performance.

Building a learning process to drive this forward ensures that lessons are learned from mistakes. Reputations are lost easily and hard to build. Standard measures of research effectiveness include citation studies but also measures of research funding. Links between universities and sponsors are well-developed, and indeed may include easy movement between academic and commercial work settings.

4.3 The best undergraduates

Top universities enrol only the best undergraduates, and go to great lengths to recruit the very best, often building academic links with the best high schools to act as feeders.

It is believed that a large and talented undergraduate population offers an uplift to the institution, keeping everyone focused. This creates a natural tension between admission policies designed to attract a wide cross-section of the population and those designed to

attract only the best. It is worth viewing universities themselves as having a transforming effect on undergraduates, such that high-school performance may not always be the best indicator of university success — it is therefore difficult to select for success at the admission stage as the only viable policy to find the best students. But it is agreed that world class universities do not accept mediocrity of student performance, and utilise all sorts of mechanisms to ensure the fullest possible support to the widest diversity of students.

Universities may even run their own feeder high schools, or have special programmes for early enrolment through cooperative programmes, or offering advanced level high school programmes within the university setting. In effect, anything to find the very best and brightest.

In the UK, a start has been made toward creating excellence within the compulsory education sector. Education Action Zones represent one approach; we could also use widespread cooperative education (linking work and study), innovative ways for bright students to fast-track into university, and indeed why not let the universities run their local feeder schools, rather than local authorities, for instance?

4.4 International presence

Martha Nussbaum said that universities must strive to develop world citizens: "We increasingly find that we need comparative knowledge of many cultures to answer the questions we ask."

World class universities are involved all over the world, their students are in other countries, participating in exchange programmes, their academics leading international research teams, or editing the best journals in the world. And they are characterised by having large international student populations and programmes of global interest.

4.5 Appropriately financed and resourced

World class status is not achieved on a tight budget.

US universities are setting the pace as they access financial resources across a wider spectrum than the public purse. Countries which fund universities solely from the public purse quickly discover that they cannot provide sufficient resources for rising educational demands and research infrastructure investment, and soon must address tuition fees and other top-up charges. Invariably, though, these countries will also need to develop policies to reduce the impact of tuition fees on students, for example, with tax-deductibility of such fees, or easy access to scholarships, bursaries and loan programmes.

A note on fees

The evidence that fees have a negative impact on accessibility is mixed, but the highest rates of university participation appear to be found in countries that permit universities the freedom to charge fees. It may be that world class universities more easily arise in systems of higher education which have specific features such as:

- diverse types of higher educational institutions with varying admission policies and funding models, and some of which act as feeders to other (better or more selective) universities;

- easy transfer of academic credit from institution to institution.

A note on endowments

World class universities appear to have large, independent, sources of money. This is arrived at in two key ways:

1. through extensive planned giving with the corporate sector

2. through development of support from alumni.

Importantly, an attitude of mind must prevail, amongst graduates of these universities that they are worth continuing to support financially once they have graduated, and amongst the commercial sector, that the full burden of university excellence cannot fall completely on the public purse.

4.6 Make effective use of international networks and alliances

World class universities are everywhere, in every network and part of every significant academic or business alliance.

This requires considerable institutional flexibility, including:

- Mutual recognition academic programmes for degree progression and graduation;

- Fully-integrated academic programmes often leading to jointly badged degrees

- Extensive staff exchanges across all university functions, including administration, finance as well as research and teaching and with the private sector;

- Open access to intellectual property, and courseware;

- Benchmarked performance.

4.7 Multidisciplinary

World class universities are in a large number of disciplines and areas of study and research.

Cross-fertilisation of ideas among different academic areas of study is leading to new findings, as traditionally defined boundaries of knowledge work less well.

Creating learning and research opportunities for students to study and research outside narrowly defined boundaries is characteristic.

4.8 Technologically sophisticated

World class universities deploy technology effectively and imaginatively, outside traditional boundaries and exploit opportunities to drive these frontiers even further forward.

Asian universities measure their excellence, in part, through the number of computers and now internet access. Some US universities give computers to incoming first-year students.

But, and it is linked to financing, all do not put up with second-best technology in their research labs, or for teaching. Companies, for instance, know that undergraduates who learn on the best technology will go on to employment expecting to work with the very best equipment and will thus continue to do their very best work, and work to ensure the adoption of advanced technology where possible. There cannot be a technology gap here.

4.9 Well-managed

World class universities are well-managed, and pursue excellence in their management systems which parallel their excellence in teaching and research.

They attract and retain eminent leadership, and utilise effective and penetrating analysis of strategic direction, marketing, technological infrastructure, student support, financial management to create and protect the right environment for world class status. There is some debate about the attributes of academic leadership, but we know from practice that effective leadership requires both management and business insight as well as an academic reputation.

5 The 3 worlds to conquer for world class status

Having now looked at some attributes of world class universities, what settings might these attributes manifest themselves in? Today, we see three worlds: the virtual world which is emerging through the internet, mobile telephones, digital television and computers; the international world which is becoming the only place in which world class status ultimately matters, and the commercial world which offers a different model for universities to evolve into commercial sensible institutions, to augment their independence.

5.1 The virtual world

Developments in information and communication technologies are creating new forms of learning and with it new types of institutional arrangements. Yet even today, universities in the UK, unlike their US counterparts, have yet really to move beyond their traditional face-to-face role in teaching, or explore the wider global communities through 'virtual university' arrangements.

As well, universities are faced with new competitors in the form of corporations, think tanks, private research institutions, and consultancies. The incubators of the venture capitalists, and the research clusters of which many are private, are examples of next generation thinking.

As well, technologies are creating new ways of linking people with sources of information which often bypass traditional universities who may continue to see themselves as more 'bricks and mortar' than 'clicks and mortar'. It has been said that modern technology creates 'the death of distance'; it also enables people to learn independently of geography – the local university, the national university may actually be less accessible than a geographically remote, but electronically accessible institution. Which of these is more likely to be world class?

Therefore, as universities may decline gradually, with reputations taking decades to build or repair, the new choices facing the modern university necessitate an understanding of rapid

change and compressed opportunities to reflect on strategic direction – in this case, the race may go to the fleetest of strategy — the best run world class institutions.

5.2 The international world

While on the one hand we may speak of globalisation in commerce, universities, knowledge and learning are characterised by 'new internationalism' , of moving out of familiar territories and drawing from all over whatever resources, people, and opportunities that may be available. As Ainsley Jolley [p3-23] observes, this will entail:

- The greatly increased international movement of students in both international enrolment study abroad programs.
- The training of educators to work effectively in a multi-cultural framework.
- Employment contracts for new academic staff requiring offshore as well as onshore deployment, as the need arises.
- The marketing of education services on an international scale, and university budgets becoming more and more locked into this.
- Joint degrees and double badging of qualifications between like-minded institutions.
- The adaptation of the teaching/learning framework to an international context.
- Graduates regularly taking their university qualifications beyond national borders, as professional labour markets become truly internationalised.

There are risks to internationalism too:

- The loss of the national cultural identity within a less-well-defined global experience;
- National governments creating in effect non-tariff barriers to the free movement of students, graduates and academic staff, which can seem to protect national identity and needs, but actually serve to advance the nation as a back-water within the global community .

5.3 The commercial world

Universities comprise an economic sector making significant invisible exports, trading on reputation and the mobility of knowledge.

Large numbers of overseas students routinely study in other countries. The UK is the fourth most popular destination in the world for university study and research generating millions of pounds in research and other contracts. But other countries and their higher education institutions can do these things too, and often with greater commercial freedom, financial security and scope. These institutions are now moving outside their 'home' markets, offering superior qualifications, quality of study, greater financial support and joint investment.

Little is really understood about the nature of this market by UK universities, even though many institutions have endeavoured to enable their academic staff to be more entrepreneurial in seeking international contracts, and 'franchising' courses and degrees.

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