

The Knowledge Society

Submission to the Scottish Higher Education Review

Executive Summary

We have reached a consensus in Scotland; we have to build our economy on knowledge because we cannot compete on low wages. In recent years this consensus has come to recognise that higher education has a central role to play in taking Scotland forward, and this has put higher education at the heart of economic development policy. That knowledge, ideas, innovation, understanding, adaptability and creativity are the foundations on which this economy will be built has been accepted. And there is a widely-held belief that there is no part of our economic activity which cannot be improved by or which will not benefit from the application of knowledge and ideas.

Universities Scotland now wants a new consensus. We want to take these principles – that knowledge will always add value – and apply them more widely. We want to apply them to public policy, to improving civic participation, to creating a fairer Scotland, to our cultural and artistic life and to how we build Scotland in the world community. Our goal is to create a Knowledge Society where learning, understanding, creativity and ideas add value to everything.

Any strategy for knowledge cannot be about planning what to explore and what not to explore or about guessing what is worthwhile and what is not. The history of learning and discovery shows that it is best to set teachers and thinkers free to make the discoveries. Applied research and solving specific problems will always be important for our academics, but restricting what they can explore or how they will explore it will only restrict our horizons. Creativity must be encouraged and supported even where we cannot see immediate results.

But that does not mean we cannot be strategic. We must prepare the ground to enable people to 'go see'. We can set the conditions which will help to stimulate and support the activities which will contribute to a knowledge society. And we can be strategic about how we deal with outcomes. If it is impossible to know exactly what will result from the 'go see' approach, it is not impossible to prepare to make the most of whatever opportunities do appear.

This is what a strategy for higher education should do. It should set the conditions in which creativity and innovation will flourish, and it should set the conditions to harness the results. This Executive Summary of our submission to the Scottish Higher Education Review presents a vision for a knowledge society and outlines the conditions we believe must be put in place to achieve it.

Three hundred years ago, Scotland was a small and not particularly significant country, economically weak, socially regressive and extremely divided. However, a combination of fortuitous circumstances – particularly the wider development of education and literacy – resulted in the Scottish Enlightenment. In the space of a hundred years, the sheer power of the ideas of a group of thinkers and the efforts of people around them who put them into practice built a new economy, transformed society, greatly increased equality and health and made Scotland a country the rest of the world looked to. It goes without saying that we cannot build a strategy for Scotland on the basis of history, but it is instructive nonetheless. Our own history suggests that a country does not need to be large and economically or militarily powerful to be significant, and that change can be built from ideas.

The higher education sector in Scotland is not promising to deliver a New Scottish Enlightenment, but we are saying that it is possible to set a series of conditions which might lead to a real and positive change in Scotland. Our submission is a modest start in thinking these thoughts.

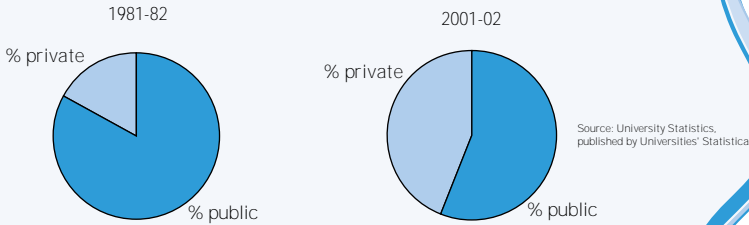
Universities
Scotland



Contexts

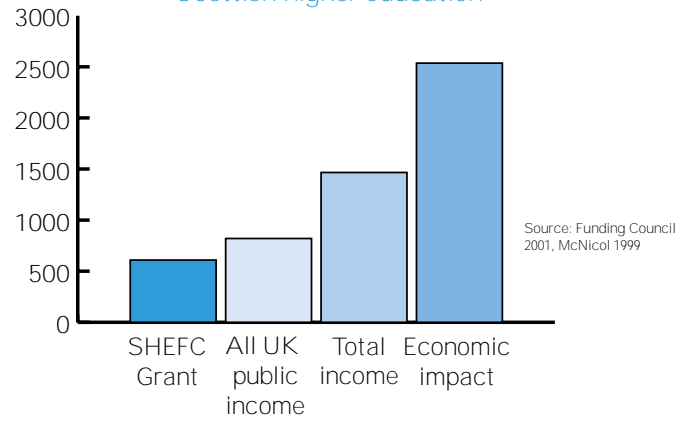
The total income of the higher education sector is £1,446 million, of which only 56 per cent comes from the public purse.

Changes in balance between public and private funding of higher education in Scotland



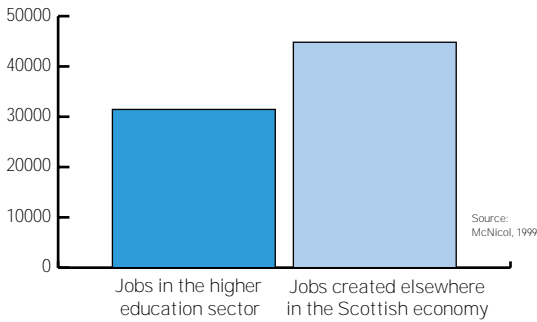
From a SHEFC grant of £609 million, higher education is worth more than £2.5 billion to the Scottish economy – of every £5 higher education spends, it spends £4 of it in Scotland.

Economic impact of Scottish higher education



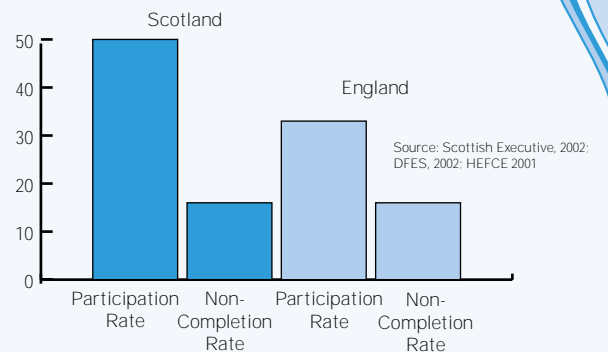
We create jobs...

Jobs created by higher education



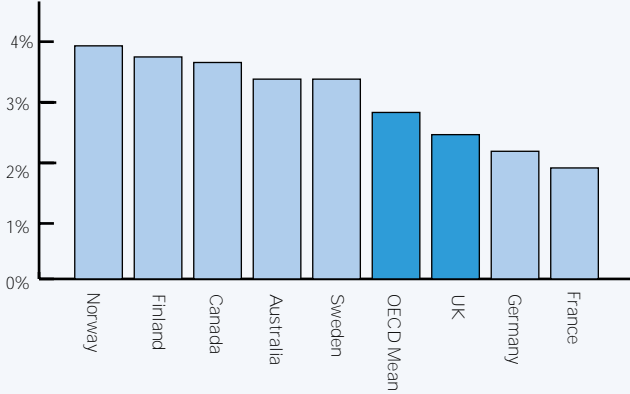
...and a highly educated population

Participation and non-completion rates, comparing Scotland and England

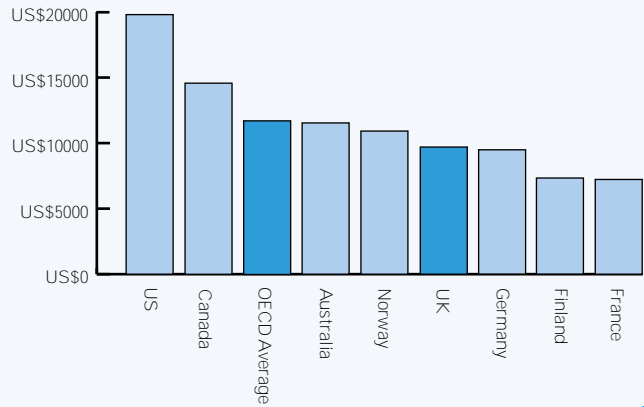


But if you compare the level of funding of tertiary education in the UK with other OECD countries, we fare badly.

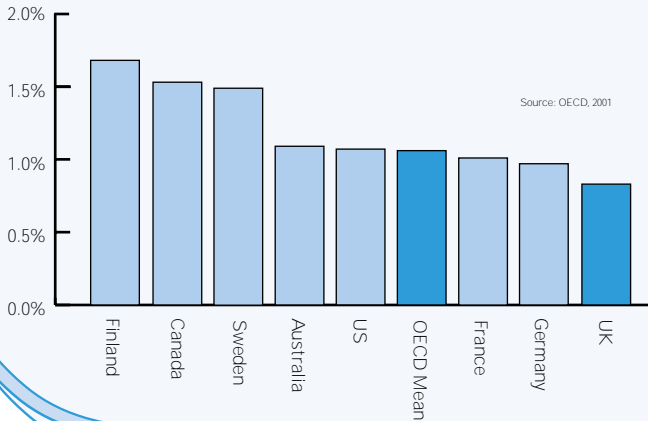
Expenditure on tertiary education as a proportion of total public expenditure



Expenditure on tertiary education per student in US\$

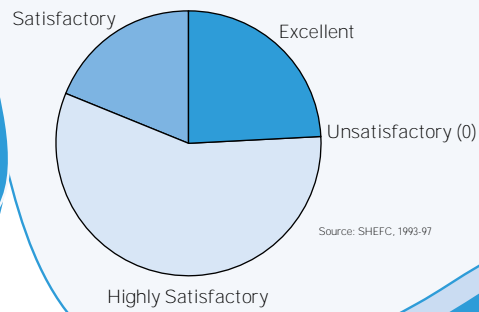


Public expenditure on tertiary education as a proportion of GDP



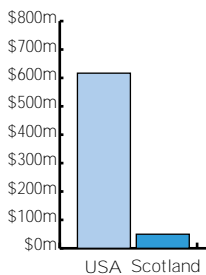
Nonetheless, Scotland performs well. The quality of teaching has been regularly assessed as being of a high quality

Outcomes of Teaching Quality Assessment

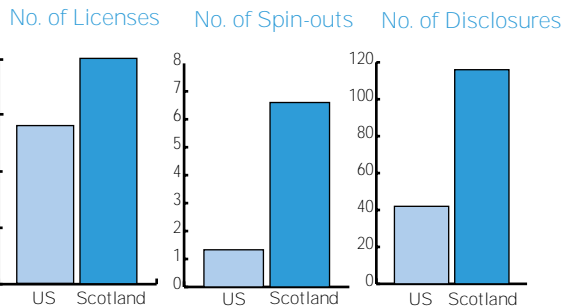


Our quality of research has overtaken the UK average, and even though we spend much less on research than our US counterparts, we spend it more efficiently.

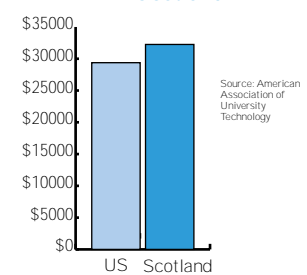
Average annual research spend in a selection of research-intensive universities, comparing USA



Outcomes per £100m spent in a selection of research-intensive universities, comparing USA and Scotland

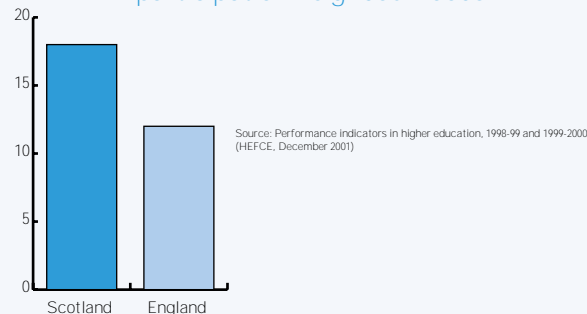


Royalty income generated per £1m spent on research in a selection of research-intensive universities, comparing USA and Scotland



And while much more has to be done on social inclusion, we are leading the UK in opening up higher education.

Full-time first degree students from low participation neighbourhoods



A Vision for a Knowledge Society

Knowledge Economy

Our vision of a knowledge economy is an ambitious one. A fully developed knowledge economy will have a thriving and creative higher education research base providing new and innovative processes and products which reach the market through a wide variety of routes. Universities will be funded to take these opportunities to market, but industry will also be used to contacting universities and 'pulling through' opportunities. Higher education will be in a continual and increasingly productive dialogue with industry and professional and statutory bodies, and companies from both Scotland and abroad will routinely tap into the knowledge resources of higher education to develop products and processes and to add value to all of their activities. This will be a simple process, because universities will make it easy to access exactly the knowledge industry needs. People will be able to move flexibly between industry and academia and there will be a good understanding of each other's business. Meanwhile, the workforce will continually learn new skills in a higher education sector geared up to delivering more CPD and industry will regularly send its employees to attend these courses. The result will be a prosperous Scotland with an economy built on high-skill, well-paid jobs.

When thinking about commercialisation of university research it is important to recognise the enormous commercial potential of areas other than science and technology, notably the arts. Equally we must remember that science has many benefits to society beyond the commercial. But in either case we have to remember that opportunities for commercialisation can only emerge from a vibrant research base: if we don't support diversity in our research there will be nothing to commercialise. Commercialisation does not just mean spin-outs and if we concentrate only on this target we will miss many other opportunities. And if we are to make the most of the commercial opportunities in Scotland, we have to strengthen the industry base in Scotland – it simply cannot sustain the commercialisation of some products at the moment. The bringing together of enterprise and lifelong learning in one government department has made a positive difference in linking these policy agendas and it has resulted in some significant steps forward. The following are some more ideas:

- A longer term funding horizon which is less risk-averse could remove the pressure on universities to make short-term gains from their intellectual property at the expense of a potentially more effective long-term approach.
- Universities could do more to embed a knowledge and technology transfer ethos, which could mean everything from better dialogue between technology transfer offices and senior managers to training for academics.
- Mapping the research base in Scotland and comparing it to the industry base may identify gaps in either which it might be possible to address.
- Continuing Professional Development (CPD) must expand rapidly. Innovative schemes to encourage more companies to take CPD more seriously could make a difference in increasing demand.
- Tools are being developed to help universities 'pick winners' from within its research base, and these must be used effectively.
- The university/industry interface should be developed further, perhaps by developing ScottishResearch.com.
- More secondments between industry and academia in both directions will aid understanding.
- Universities Scotland is currently developing more sophisticated ways of measuring activity and interpreting the results.
- The higher education sector needs support in attracting top quality managers to help in the commercialisation process.
- Scottish Institute for Enterprise is promoting an entrepreneurial attitude in graduates which will deliver more effective knowledge transfer through people. This must be supported.
- There must be wider discussion of how more of the economic activity resulting from licensing deals can be secured in Scotland, either through contractual obligation or incentives.
- The Scottish Executive and its agencies must ensure that the long-term business environment is favourable for spin-outs, start-ups or licensing arrangements in Scotland to ensure that Scotland continues to receive benefit from them.
- If academics are to move into business there must be 'back-fill' to ensure that the research base is not weakened.

Intelligent Public Policy

The best policy-making is that informed by evidence, explored for alternatives and assessed for impact – all strengths of higher education. A vision for intelligent public policy would see effective interdisciplinary and cross-sectoral networks of social researchers in the Scottish higher education sector in ongoing active dialogue about current issues but also on purely speculative subjects. Policy-makers – both elected representatives and officials – would engage with this dialogue, drawing out effective new ideas and feeding in questions on the issues they have to address. Policy-makers would have a good knowledge of the architecture of higher education and they would be able to navigate quickly to the expertise they need. As well as addressing the issues directly in front of them, both would feed in thoughts on what issues are approaching in the medium and longer term, stimulating debate and discussion at an early stage. And the knowledge and skills of policy makers would be continually updated as they go on learning throughout their careers. This would result in public policy which was better informed by the best evidence available, where long-term thinking was the norm, and where new ideas were emerging and being discussed all the time.

It is impossible to guess what the big issues facing Scotland will be in the future, so we have to maintain a vibrant and diverse high-quality research base. We have to recognise that not all activity will be immediately 'useful'. But we have to ensure effective knowledge transfer so that it can be used most effectively when needed:

- In some subjects, networks of experts are being established. These should be supported and others developed, and their expertise should be drawn on by policy-makers.
- The civil service and other policy-makers should undertake more issue- rather than management-focused CPD and higher education should deliver this.
- Secondments between the civil service (or other key policy-makers) and the higher education sector should become much more common.
- Schemes such as the Whitehall scheme where Permanent Secretaries each 'adopted' a higher education institution should be considered.
- Government must place less emphasis on the short-term, low-cost, one-off consultancy culture and more on long-term, ongoing, properly funded research.
- The measurement of the quality of social research should take into account a wider range of dissemination options
- The higher education sector must become better at telling the story of the knowledge resources it has.

Social Inclusion

There should be a bold vision for how higher education can help to produce a fairer Scotland. Everyone should have the opportunity to achieve their full intellectual potential and reap the linked benefits irrespective of their background, and the way people study should not be dictated by their income. This means that increasing participation in higher education from lower socio-economic groups is a key challenge, but ensuring that people from these groups successfully complete their courses is an equal challenge. This will be achieved where the pursuit of knowledge is encouraged and the benefits of education promoted.

- Many of the current social inclusion projects within higher education are highly effective, but funding is often temporary and there has to be a longer-term approach.
- All government departments and agencies should promote higher education, particularly the Department of Work and Pensions which continues to emphasise short-term training and low-skilled jobs rather than higher education.
- The wider access regional forums should expand to work strategically with other key local agencies.
- There must be widely-available, accessible and comprehensive information about higher education.
- Cross-sectoral and cross-institutional progression routes should be mapped to provide a better idea of how people can move through learning.
- Articulation between further and higher education should be supported, but this must not mean a two-tier education system with less well-off students being discouraged from an integrated degree programme.
- The introduction of credit-based funding could encourage greater flexible provision.
- Scotland now has a more supportive student finance system but limited student support is still a disincentive to inclusion and needs to be monitored.
- The additional costs of increasing participation have to be recognised and met.
- There is a limit to what higher education can do and this must be recognised. Others must be empowered to play their part – for example by putting staff in schools to encourage pupils to consider higher education or by training trade union learning representatives to do the same.

A Creative Scotland

Art, the creation of beauty, and culture, the beliefs and traditions we share, are sometimes seen as peripheral – but the arts and the elements that make up our culture are the glue which holds together our society. It is no coincidence that wherever you find a strong economy or social cohesion there is a vibrant culture and a flourishing artistic scene. A vision of a creative Scotland would see people involved in cultural life at all levels and the arts flourishing. Our cultural resources would be accessible and widely used. Scotland would be recognised around the world as a seedbed of creativity, both in the arts it produces but also with an innovative approach to public life and industry. We would be involved in an ongoing dialogue with creative people from around the world, but we would also see lively dialogue between people from many different sectors of life in Scotland. We would be thinking about the future in a diverse and complex way, and we would be ready to meet it by taking risks and adopting a 'go see' approach. The place of the creative industries would be properly recognised, and we would be supporting and nurturing them. Above all, we would be engaged as a nation in an ongoing search for who we are, what we could be and what our place in the world is.

The creative industries earned £5bn for Scotland last year. Even more could be achieved with support, such as:

- better 'seeding and nurturing' of potential creative industries in higher education
- incubator units in the higher education sector
- more resources for the Arts and Humanities Research Board
- The establishment of a creative industries Proof of Concept Fund
- Support for better interaction between higher education and industry, including mentoring
- ATCS (formerly the Teaching Company Scheme) applicable to the arts

- A more specific strategy for exporting Scotland's cultural achievements and for importing the achievements of other countries should be put in place.
- Some earmarked funding might promote more collaborative activity.
- Scholarships could be introduced for Scottish students and academics to travel abroad and which would bring international students to Scotland.
- The barriers which stand between the people of Scotland and the learning opportunities available in Scotland must be removed, perhaps by providing schools with grants to access those opportunities or through Individual Learning Account-style funds.
- There has to be a fight back against the anti-intellectual culture that has become widespread.
- There has to be proper support a flourishing culture in Scotland, and we need an effective arts policy which brings all the agencies and players together.

Thinking Citizens

Education should not just be for work. The vocational role of higher education is important, but treating it only as a narrow, instrumental tool is a mistake. Being a citizen is not only about being an effective employee, it is about being able to be involved in the political process and the arts, being able to communicate effectively and being able to understand the forces which shape our lives. Scotland should encourage a flourishing of ideas, and as many people as possible should be brought into contact with these ideas. When this is achieved, Scots of all ages will participate in learning throughout their lives, not just for narrow career advantage but to enhance their 'social capital', to 're-create' themselves and to empower themselves in a world of ideas. Public financial support for learning with the sole aim of enriching the learner will be normal and we will talk of lifelong learning not only in terms of CPD. All education sectors will be geared up to meeting the needs of inquisitive minds who just want to find out something new, and bite-sized learning opportunities in literature, philosophy, history or sociology will be the norm. Public buildings – universities, colleges, libraries, community centres, schools – will all be geared up to providing access to this kind of learning, and employers will enable and encourage it. In this vision, research and exploration will be celebrated, whether there is an obvious outcome or not when the inquiry is begun. The discoveries that benefit society most are often not ones which are expected or pursued, and academics should be supported even if their research may seem obscure. And we will recognise that whether it is an understanding of the impact of technology on people's lives or linking new creativity in literature to the mass media, the interaction between science and the humanities is essential if we are to build a future world in which people are happy to live. There are steps we could take now towards that vision:

- The attitude of people and policy to 'learning for its own sake' has to be changed from viewing it as an optional extra to being an essential part of life.
- Barriers to this kind of 'avocational' learning (learning which is not for work) – both structural and financial – must be removed. Replacing Individual Learning Accounts would be a big step.
- Universities must change to deliver more and more of this kind of learning in a way which is easily accessible.
- The school education system must be enhanced so an appreciation of avocational learning is embedded at an early age.
- We must take a much less risk-averse approach to the funding of research, accepting that not every pound spent on research must result in a 'product'.
- There should be more effective ways to recognise and reward community involvement in academia.
- Conditions must be set which will encourage people to work in academia and to pursue this knowledge – support, recognition and reward.

Scotland's Place in the World

Scotland is a small country and must play to its strengths. There are a number of things for which it is internationally known, and where it performs well on the international stage. Scotland has already worked to promote many of these things – marketing itself as a tourist destination, promoting whisky and textiles abroad, creating networks of ex-pats, supporting our financial services. But Scotland has not yet made anything like enough of one of its great strengths as an international signifier of Scotland – its higher education. Scotland could promote itself as a centre of learning and discovery, activities which need not be expensive. Devolution has been of enormous benefit in shaping our place in the world, and it can act as a springboard to even greater achievements. A vision of a Scotland which sells itself abroad as a creative, thinking nation is not unrealistic. A Scotland where the world's industries know about the quality of our research, our teaching and the quality of our graduates. A place which people associate with literature, music, film, visual art, theatre, design and television. A centre of world thinking which has set aside space, time and resource to consider some of the big issues facing the world and where people come to engage with ideas. And a first-choice destination for the world's citizens when they want to learn. There are steps we can take now towards this vision:

- Scottish higher education still has the potential to deliver more commissioned research contracts or CPD to international companies. Our trade agencies should promote this role.
- Emerging industries in Scotland have the potential to become international players – for example biotech, optoelectronics or renewable energy – and their development must be supported.
- Scotland's trade agencies must start promoting Scotland on the bases of the high educational achievement of our population and the knowledge resources in our universities.
- The international market in e-learning is one which Scotland could gain a significant share in. Strategic discussions are needed to ensure that our energies and resources are used effectively in this area.
- Scotland must brand itself effectively as a destination for international students – within the UK system but also distinct from it.
- A scholarship scheme targeted at developing countries or others that we feel we should be linking with could help to increase the international understanding and recognition of Scotland, and would develop new links.
- While not perfect, Tartan Day is a bold move to promote Scotland abroad and could be replicated.
- Scotland should carve out a niche for itself in international thinking, perhaps by identifying areas of international interest on which we could set up centres of excellence.
- A 'Fusion fund' to explore issues of joint interest between Scotland and other countries could develop many valuable and important links.

Setting the Conditions

So this is the vision – how do we ensure the right conditions to make it happen?

More Funding

The biggest inhibitor to the development of a knowledge society is the comparatively low level of funding of higher education in Scotland. Compared to key OECD competitors, we rank mid-table or lower on all measures of higher education funding. There is no easy alternative to investment if we have these ambitions for Scotland. The core activities government expects from higher education – the teaching of domestic students and the maintenance of a research base – are subsidised by the private income of universities to the tune of 2-4 per cent and 30-60 per cent respectively. This means universities cannot innovate with this income from their entrepreneurial activity. We therefore put forward a simple offer: any additional resources which can be made available to higher education will be used by the sector to the real benefit of Scotland.

Some changes to funding methodology

We have no immediate major concerns about the methods of funding higher education in Scotland. The Funding Council acts as a valuable intermediary between government and the sector. More discretion has recently been given to universities in using public resources. Diversity is enabled, and the balances between student choice and the wider needs of society and between competition and collaboration are managed effectively. There is a poor recognition of the amount of collaboration already taking place and we do not want to see moves which would distort behaviour in this area. However, funding can be too risk-averse – we should be held to account for process as well as outcome. Longer-term funding horizons would be welcome provided they are a 'declared minimum'. They should not ossify future funding or inhibit new money coming in. We would like to see a move to credit-based funding, although how this would be implemented would require consultation. Longer-term funding is needed to meet the extra costs associated with encouraging and retaining students from non-traditional backgrounds. 'Mission funding' has been raised. We would be keen to discuss this further but remain unsure as to how it could be implemented. Any new funding system must be based on three principles: transparency, equity and an evidence base.

Support established methods of learning and teaching...

Despite some demand for increased flexibility in provision, full-time, full-length degree courses will remain the mainstay of higher education because this is how most people want to study. The ScotCAT system is enabling more flexibility, but the lack of economies of scale make this kind of provision expensive. Equally, the funding for both institutions and students is still based on a full-time model and this must be revised. While demographic change might result in a reduction in the number of school leavers, if social inclusion aims are met the total number of students may remain the same.

...and develop new ones

Web supported learning is becoming more important and will be increasingly expected by students, but providing it is expensive. Approaches are variable and a more strategic approach from the sector is needed. The higher education sector must develop further CPD provision, but this requires systematic dialogue with industry. The Scottish higher education sector should also expand international in-country provision.

Introduce 'Higher Education Price Index' to support the essential elements of higher education

The pay of staff in the higher education sector – academic and non-academic – has fallen badly behind those in other professions. Higher education is built on the skills and efforts of people and they must be properly rewarded. This must be addressed with urgency. The buildings, estates, laboratories and teaching facilities in the higher education sector are the other essential element, but they too need attention. We do not want one-off pots of money to address these problems (although smaller institutions may require support of this kind), we want a proper recognition of their costs in annual funding to enable us to manage them responsibly. The costs of estates and staffing rise at a rate faster than the Retail Price Index. We would like to see a Higher Education Price Index introduced as the basis of funding decisions which recognises the real costs universities and colleges face.

Balance accountability and innovation

The higher education sector is held accountable by process and outcome, through extensive audit and performance measures. It is important to make sure that this accountability does not make the sector risk averse where innovation is required. In addition, some of the indicators and targets are too crude. It is important to measure performance, but if targets will distort behaviour they must be very carefully considered to ensure that that change in behaviour is what is sought. Accountability should also be able to work to longer timeframes to prevent short-termism.

Recognise good governance

The governance and management arrangements in the higher education sector work well, and nothing should be done which would discourage leaders in other sectors from giving their time to govern universities and colleges. The biggest barrier to long-term strategic planning is the tight financial climate. However, the SHEFC leadership initiative is a positive move.

Avoid the pitfalls of central planning

Central planning seldom works, in higher education or elsewhere, and often does more harm than good. While we would like to see SHEFC acting strategically, we oppose granting it central planning powers.

Change attitudes

Attitudes are important. A 'lifelong learning attitude' must be developed in Scotland if learning goals are to be achieved. Current public assumptions about what learning is and when it takes place must be challenged. And the culture of anti-intellectualism which has become prevalent must also be challenged.

Support students

The student support arrangements in Scotland have certainly improved and are more likely to enable the development of a knowledge society. However, student debt is still a problem and support for part-time study and childcare is still inadequate.

Conclusion

This submission is built on a simple premise: that knowledge can always add value to any activity. If an analysis of Scotland's strengths, weaknesses, opportunities and threats was undertaken, our education and learning would be seen as a real strength and a great opportunity. Our higher education sector does represent an enviable asset for a country of our size. But any asset is only as effective as the use that is made of it. In this submission we have looked at many areas of life in Scotland and suggested how higher education might enhance them. We hope it is a vision that others share.

Universities Scotland is the representative body of Scotland's 21 universities and higher education colleges

For more information contact:

Universities Scotland

53 Hanover Street, Edinburgh EH2 2PJ

Tel 0131 226 1111

Fax 0131 226 1100

Web www.universities-scotland.ac.uk