
Opening Welcome*

Ian Johnston

*Vice-Chancellor and Principal
Glasgow Caledonian University
Cowcaddens Road, Glasgow G4 0BA, Scotland, United Kingdom*
Congress Honorary Chairman

It is a great pleasure, as Honorary Conference Chair, to welcome delegates to Scotland, to Glasgow and to Glasgow Caledonian University.

As a professional/vocational university, we have a very high regard for UNESCO's work on engineering education, and we are delighted to have present delegates from all over the world to share in leading-edge practice.

Glasgow Caledonian University's history goes back 127 years, but with regard to engineering it started in 1971 with the formation *ab initio* of the Glasgow College of Technology by the City Council who, even at that time, recognised the importance of higher education for the economic regeneration of the City of Glasgow. University status was achieved in 1993 after a short period as a Polytechnic.

The School of Engineering, Science and Design is now one of eight Schools in the University, all of which have a professional/vocational orientation. We now have over 14,000 students.

Despite the declining popularity of science and engineering among school pupils throughout the United Kingdom, the School of Engineering, Science and Design here at Caledonian has managed to continue to recruit good numbers of students by adapting the courses to the digital age. However, many pupils have poor numeracy skills and the School has to do a lot of support work to enable students to succeed in coping with the quantitative and mathematical aspects of the engineering curriculum.

Within the UK higher education sector, there are lots of difficult trends and issues.

As higher education expanded to a mass system (here in Scotland, 53% of 18 year olds now participate in higher education!), the Government became concerned that academic standards and the general quality of the learning experience would deteriorate. Here, over 15 years, student:staff ratios



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have lengthened from under 10:1 to over 20:1 in new universities. The Government has, therefore, tried various ways of inspecting universities, the current regulator being the Quality Assurance Agency. After a lot of controversy, the Agency has just decided to withdraw from regular reviews of specific subjects and to concentrate on quinquennial reviews of each university's total quality assurance system. However, the *quid pro quo* is that universities will all have to publish a uniform data set recording students' experiences and outcomes, and external examiners' views. Most academic staff deeply resent the bureaucracy and lack of trust in their professional, academic judgement that has grown up around the regulator's processes.

The Government is also pressing for merit or performance-related pay as part of a small attempt to realign academic pay with market rates. Academic pay in the UK has fallen far behind its comparators to

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the point that it is becoming very difficult to recruit in some subject areas.

In addition, there are much greater expectations on academics arising from technological change, customer demands and life-long learning.

As everywhere else, we are struggling to apply rapidly changing technology to the on-campus learning process in pedagogically- and cost-effective ways. Whilst you are here, I hope you will visit our state-of-the-art Learning Café. (You can access the Web there free as a delegate). This is a deliberate attempt to blend CIT with a social environment and to encourage students in informal group learning. So far, it is working exceptionally well. It is also a *style* statement that distinguishes Glasgow Caledonian from ancient universities (one just two miles down the road is 551 years old!) and is a useful student recruitment tool. It also forms a bridge with the local community who can return to learn in sub-HE level courses in an informal and less intimidating environment.

Whilst expecting a modern, stylish learning environment, the learner as a customer is also beginning to demand customised learning opportunities, especially for adult life-long learning. We are proud to be the hosts of a newly launched Scottish Centre for Work-Based Learning. Under the energetic leadership of Professor Colin Chisholm, Glasgow Caledonian has validated a complete suite of work-based learning qualifications from diploma to degree and beyond to taught doctorates. In principle, these are validated learning frameworks into which the learner can put a great deal of personalised content, eg actual problems and issues and surveys from their current job, in the form of a customised learning contract.

Whilst work-based learning and individual learning contracts customise the learning process, the next frontier is to customise the dissemination of research through knowledge transfer, especially to small firms that cannot afford their own research and develop-

ment department. We confidently expect this to be one of our key priorities for the next decade, but it, too, will place new demands on all of our staff.

In this rapidly changing world, we have found that the best approach is to have a very process-oriented *vision*, which works well for engineering and for all our other subjects.

This is to be innovative, inclusive and responsive to the needs of both students and employers. The Learning Café and the work-based learning contracts are good examples of our innovatory approach. Our intake of students is very inclusive and we take pride in educating students irrespective of social class, race, religion, disability or sexual orientation. Out of over 100 universities in the UK, we are one of only a handful who are miles ahead of our benchmarks on social inclusion. We seek to be responsive to students' needs by regularly updating our portfolio of programmes and we are working on a state-of-the-art CIT-supported student advice system. For employers, we are already major contributors to graduate supply in Scotland (as the fourth biggest university), but we need to work on improving knowledge transfer.

I hope you have enjoyed that brief review of issues in the UK higher education scene, and now feel you know your host institution, Glasgow Caledonian University, a little better. I am sure you will have an excellent, enjoyable and useful conference. Under Professor Pudlowski's admirable leadership, you already have in your hands a published volume of the papers presented this week, so you will be able to concentrate on discussing with the presenters aspects that most interest you. I do hope that you find time to see something of Glasgow Caledonian (including the Learning Café), Glasgow City and the beautiful countryside of Loch Lomond and the Trossachs, and that you will return home with happy memories of your visit to Scotland.