UK COMPUTING RESEARCH COMMITTEE

Funding Councils' proposals for the revised Research Assessment Exercise

Submission to the House of Commons Science and Technology Committee, on the Funding Councils' proposals for the revised Research Assessment Exercise.

UKCRC

The UK Computing Research Committee (UKCRC) is an Expert Panel of the British Computer Society, the Institution of Electrical Engineers and the Council of Professors and Heads of Computing. It was formed in November 2000 as a policy committee for computing research in the UK. UKCRC members are leading computing researchers from UK academia and industry.

The present Inquiry

The House of Commons Science and Technology Committee has invited submissions to the inquiry on the Funding Councils' proposals, and said that these should consider whether the new scheme will provide a robust and reliable system of research assessment, the burden and cost it places on higher education institutions and the implications for higher education more generally. UKCRC is pleased to respond to these questions.

Our Evidence

UK research has changed almost beyond recognition in the past twenty-five years. Whereas it used to be normal for a new researcher to take time to investigate several possibilities and to read and discuss widely before deciding on a field and line of research, now they are under pressure to produce publishable results quickly and to keep the stream of publications flowing.

The best research is done when good people have space - it can take years to get ideas to the point where they should be published or patented or used. It takes even longer if someone has to cross disciplines, or to branch out into an entirely new area. This space is no longer available, and the consequence is an increasing focus on safe, incremental research and an unwillingness to cross discipline boundaries or to explore adventurous ideas that may not lead to publishable results. The original RAE contributed to this change, by focusing on recently published research and thereby compelling researchers to maintain a stream of publishable work. The Funding Councils' proposals will not relieve this pressure.

We recognise that the previous environment had weaknesses: some researchers were unproductive and Heads of Departments had very few means by which to influence their colleagues' behaviour; some Departments had incoherent research strategies; and it was difficult for the Funding Councils to assess whether their funding was going to the right universities and achieving the greatest return. The RAE provided some solutions to these problems, but with substantial overheads. UKCRC members are divided on whether the effect of the RAE has been positive or negative overall.

We accept that there has to be some means of assessing the relative strengths of research groups, and the RAE seems to be the best that the academic community is able to devise. Whether the new RAE structure will be an improvement on the old depends on the panel structure, the criteria that panels will employ, and the relationship between the RAE profile gained and the funding that is awarded. These details are crucial in determining the behaviour that will result: for example, whether researchers will consider that there is greater personal advantage in collaborating and bringing on junior staff, or in publishing single-author papers. It is essential that the opportunity to improve the criteria is taken, and that due credit is given for older articles whose significance has recently been recognised, for patents and novel artefacts (software and hardware), for single papers of outstanding quality, and for papers delivered to prestigious conferences and workshops. Conferences and workshops are particularly

important in rapidly developing subjects such as computing, where researchers often decide to present important results at conferences rather than suffer the delays inherent in journal publication.

For all these reasons, we believe that it is essential that panels and sub-panels are free to choose the assessment criteria that are most appropriate for each discipline. We further believe that overreliance on metrics and formulae will lead departments to optimise for the metrics and not for the quality of research; we therefore hope that the assessment criteria will retain a strong element of judgement and that panel members are selected from the most highly respected researchers in the discipline.

The old RAE has improved research quality overall – in part by giving Heads of Department new management tools – and the funding structure used by the Funding Councils has redistributed the available money towards elite departments. We support this redistribution of funding but we believe that it has gone far enough: there must be sufficient money for research outside the elite group to support the development of new ideas and talented researchers wherever they may emerge.

We understand that, under the new rules, the ratings of individual researchers will not be disclosed. We believe this is essential to maintain collegiate and open behaviour within research groups, but we wonder if the position will be able to be maintained in the face of challenge under the Freedom of Information Act, the Data Protection Act and the Human Rights legislation. For these and other reasons, strict confidentiality is unlikely to be attainable, and the effects of individual ratings becoming known may do more harm to research, through undermining morale and creating divisions inside research teams and departments, than the rating process does good in raising research quality. The issue of absolute confidentiality is sufficiently important that it must be resolved before the decision to assess individual researchers is set in stone.

The International Review of Computer Science Research, commissioned by OST, EPSRC , the Royal Society, BCS and IEE, and published in 2002, made this assessment:

Computer science in the UK has traditionally been of the highest quality. However, while the UK remains a world leader in some research areas and is a strong participant in many others, this position is by no means assured. Declines in certain fields are already evident; more will follow, given the current levels of support and the nature of today's university research environment. The consequences could be far-reaching. Computer science is not only an academic discipline offering deep intellectual challenges; it is also a discipline where research results can translate into competitive advantage and economic well-being on a local, national, and international scale.

This assessment was made at a time when the RAE results in Computing were at their highest ever, implying that the improvement in the UK had been surpassed by major international competitors. Somehow, the research assessment criteria and the funding that follows the assessment must reverse this relative decline.

UKCRC believes that the UK's research strength in Computing is very important to the UK's international standing in science and to wealth creation and the quality of life. We are pleased that the Science and Technology Committee is scrutinising the way in which funding is allocated to universities, and we encourage the Committee to maintain their oversight during the next year, when the structure of panels and sub-panels will be created, and the detailed assessment criteria that the panels will use in 2008 will be decided.

We would be very happy to answer follow-up questions or to give oral evidence if that will help the Committee in its work.

UKCRC. April 2004.