

Institute of Physics

HEFCE 2006-11 draft strategic plan: consultation

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Dear Sir/Madam

The Institute of Physics is a leading international professional body and learned society, with over 35,000 members, which promotes the advancement and dissemination of a knowledge of and education in the science of physics, pure and applied.

The Institute welcomes the opportunity to submit its views and comments on HEFCE's draft strategic plan for 2006-11. There are a number of issues that we wish to raise.

Enhancing excellence in learning and teaching:

[para 59] The Institute is pleased to note that the draft strategy has acknowledged the implications of the Bologna declaration on UK HE. The declaration is of significant concern to the physics community, as it threatens the viability of the four-year undergraduate MPhys degree in physics by aiming to impose a rigid 3+2+3 framework across Europe. This will seriously undermine the ability of UK physics departments to produce graduates of a calibre able to progress to PhD programmes, and to enter the labour market as practising physicists. It is essential that the four-year qualification, for its continued credibility in Europe, is recognised as a second cycle qualification.

Furthermore, the long established 3+3 model is explicitly prohibited by the declaration as a route to PhD level. However, unless the government and other relevant bodies, such as HEFCE, effectively raise the awareness of the issues, many UK universities will continue to adopt the 3+3 model, which will seriously undermine the recognition and acceptance of the PhD as a third cycle qualification in Europe.

[para 60] The Institute notes HEFCE's recognition that teaching in HE is a skilled profession, and that there is a need for lifelong learning and professional development amongst the profession. One key point with regards to this is the important link between teaching and research. In a fast developing discipline, such as physics, it is imperative that those teaching the subject have access to high quality research and the opportunity to participate in such research activities, which will not be the case in teaching-only institutions, or in institutions with under-resourced research groups.

Widening participation and fair access:

[paras 70 & 84] The Institute is pleased to note HEFCE's continued support for strategically important and vulnerable subjects, including physics, which is vulnerable to the mismatch between supply and demand. The Institute looks forward to working with HEFCE to stimulate demand and widen access to physics degrees, including students from under-represented groups.

[para 96] The Institute has concerns about the effects the introduction of variable tuition fees, in 2006-07, will have on student demand for laboratory-based subjects, such as physics,

chemistry and engineering, especially from under-represented groups. A significant fraction of the undergraduate cohort for these subjects is enrolled on four-year courses, hence further financial pressures exist, which affect their choice of course. Such pressures also exacerbate recruitment into postgraduate courses. An already fragile population of physics degree applicants could be driven away to cheaper options. This would not be in the national interest, as at the employers' level, there is high market demand for graduates in these areas. Therefore, it is imperative for HEFCE to monitor the demand for these vulnerable subjects.

A major problem in the HE sector is that university finances are being driven by student choice. The recent expansion in participation has had an emphasis, correctly, on the traditionally under-represented groups. However, a side-effect of this emphasis has been that subjects requiring specific skills and knowledge on entry, such as many science and engineering subjects, mathematics and modern languages, have not benefited from the increased number of students and their relative (in many cases absolute) market share has decreased sharply. Given the importance of these subjects to the economy and the proven high level of career possibilities for graduates, it would not be unreasonable for HEFCE to consider some financial incentives to universities to recruit in these shortage areas. If HEFCE can undertake social engineering in encouraging students from under-represented areas of society, there is no reason why it should not encourage entry to under-represented subjects.

Enhancing excellence in research:

[para 100] The Institute is pleased to note HEFCE's continued commitment to the dual support funding system. The maintenance and enhancement of dual support funding is in the Institute's opinion, the most effective method of allocating funds for curiosity-driven research, and the infrastructure which provides the environment for high quality research to be undertaken.

[para 103] It has been noted that a number of changes to the funding method for research will be introduced by 2009. The Institute notes from the 2003 consultation on the funding method for research that HEFCE had proposed to review the basis for subject weightings and to calculate new weightings to be used after the next RAE. The Institute would have welcomed some information on how HEFCE proposes to undertake this review.

[para 104] The Institute notes that HEFCE will undertake a review of developing effective quantitative measures of research quality and output, which include developing bibliometric indices. Are these measures being considered as an alternative to future RAE exercises? Nonetheless, HEFCE with the other UK funding councils will need to undertake an in-depth and robust review of the impact of the RAE exercises and devise a new methodology of allocating funds based on the quality of research.

[para 107] The third round of the very successful SRIF scheme ends in 2008. The Institute has noted HEFCE's commitment to supporting infrastructure, but would have welcomed some reference to the plans for providing additional funds for infrastructure following-on from the third round of SRIF.

Enhancing the contribution of HE to the economy and society:

[para 133] The Institute, as an international learned society, is keen to promote physics to the developing world, and would be pleased to explore the possibility of working with HEFCE to undertake this important task.

Sustaining a high quality HE sector:

[para 138] A panel of international physicists recently took part in a second international review of the quality of UK physics and astronomy research. One of the panel's key comments was that it is essential to maintain the level of funding that has been invested into the UK's science and HE base, since the turn of the 21st century, to support the young people in the pipeline in order to nurture their talent for the benefit of the UK (lest they be lost to the UK's scientific competitors). In particular, another key issue they raised, following on from the

2000 review, was the impact the increased infrastructure investment, via the JIF and SRIF schemes, has had on improving the morale of the academic workforce, especially amongst PhD students and young lecturers. It is imperative that the condition of the physical infrastructure is indeed maintained and never allowed to deteriorate, as was the case in the past.

If you have any queries about any of the points raised, please do not hesitate to contact me.

Yours faithfully

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