

Teaching funding and student number controls: arrangements for 2014-14 and beyond

A response from the Society of Biology to the Higher Education Funding Council for England

25th May 2012

The Society of Biology is a single unified voice for Biology: advising Government and influencing policy; advancing education and professional development; supporting our members, and engaging and encouraging public interest in the life sciences. The Society represents a diverse membership of over 80,000 - including practising scientists, students and interested non-professionals - as individuals, or through the learned societies and other organisations listed below.

The Society of Biology welcomes the opportunity to respond to this consultation.

Do you agree with our proposal to continue from 2013-14 to control the numbers of students starting HEFCE-fundable full-time undergraduate and PGCE study at each provider?

The Society of Biology and other organisations responded^{1,2} to the previous HEFCE consultation on student number controls³ and expressed concern that the original proposals in the Higher Education White Paper could initiate an unwelcome approach to higher education provision by incentivising the development of a low-cost element to the sector, with prioritisation of recruitment of high-performing students to non-science subjects.

We were pleased to see the recent announcement⁴ that uncapped recruitment for high achieving students will be further eased in 2013/14, through a lowering of the A-level threshold to ABB+ or equivalent. This goes some way to allay our concerns that HEIs would focus their recruitment efforts on AAB+ students to non-science subjects, given the financial incentive for recruiting students to classroom-based courses rather than to more expensive laboratory based courses.

¹ Society of Biology response to HEFCE consultation on teaching funding and student number controls <http://www.societyofbiology.org/policy/consultations/view/54>

² A joint response from the Society of Biology, Institute of Physics and Royal Society of Chemistry to the consultation on the HE White Paper <http://www.societyofbiology.org/policy/consultations/view/52>

³ HEFCE consultation on teaching funding and student number controls 2011/20 <http://www.hefce.ac.uk/pubs/year/2011/201120/>

⁴ Circular letter 12/2012, HEFCE, www.hefce.ac.uk/pubs/year/2012/cl122012/

Additionally, this will help reduce our concern that as science subjects are perceived as being harder at A-level⁵, and therefore less likely to yield the originally required AAB+ profile, we would see a decrease the number of students studying these subjects at A-level. The new proposals are particularly welcome in the sciences, where students may find it more difficult to get the highest grades, compared with those who opt to study humanities, as university offers for science subjects will often include multiple required A-level subjects. The new proposals will also allow HEIs more flexibility in terms of variable offers for widening participation applicants.

A further concern we have expressed previously was that by making additional student places available for institutions that charge fees of less than £7,500, institutions may be dis-incentivised from offering more expensive courses such as the biosciences, or may offer programmes with little or poor quality practical content to keep costs down. The recent announcement⁶ that an additional 5,000 places will be made available through the core and margin exercise and that providers with an average fee of £8,250 (net of fee waivers) can be considered is a move in the right direction.

Do you have any comments about our proposed approach to supporting high-cost subjects? Do you have any comments about our proposal to use an approach based on TRAC(T) – with modifications – to inform our development of the future funding method for high-cost subjects?

The outputs from higher education include new knowledge and highly educated, skilled people; both are essential for a successful UK economy. It is vital to increase and exploit our knowledge and skills in areas of national strength, such as the biological sciences, and by supporting pharmaceutical innovation and sustainable agriculture. Science in its totality contributes enormously to our economic and social prosperity, and the life sciences are a particularly successful story for the United Kingdom.

Science subjects are inherently costly to teach, and there are few cheap options for teaching them well, principally due to the vital elements of laboratory and fieldwork, which place demands upon both resource budgets and staff time. There remains concern from both the academic and business sectors over the level of practical skills in the undergraduate population^{7,8}, which has led the Society of Biology to develop a Degree Accreditation Programme⁹ to highlight bioscience degree courses across the UK that provide graduates with high level practical skills and experience needed for careers in research. It is our hope that this will provide employers with assurance over the levels of laboratory and fieldwork experience provided by a degree, and also make it easier for students to choose degrees which will equip them for future scientific careers.

⁵ SCORE - Relative difficulty of examinations in different subjects (2008) <http://www.cemcentre.org/attachments/SCORE2008report.pdf>

⁶ Circular letter 12/2012, HEFCE, www.hefce.ac.uk/pubs/year/2012/cl122012/

⁷ Review of the Skills Needs in the Environment Sector www.nerc.ac.uk/funding/available/postgrad/skillsreview/

⁸ Skills needs for biomedical research, ABPI (2008) <http://www.abpi.org.uk/our-work/library/industry/Pages/skills-biomedical-research.aspx>

⁹ Society of Biology Accreditation Programme <http://www.societyofbiology.org/education/hei/accreditation>

However, universities will require additional funding to support the delivery of courses such as these which provide significant research training and practical experience. The TRAC data show clearly that the average cost of undergraduate degrees in bioscience and related disciplines (e.g. pharmacy and pharmacology, anatomy and physiology and agriculture and forestry) lies in the range £8.8-£9.7k whereas those for the humanities and social sciences cost centres are in the range £6.3-6.4k. The cost differential is therefore of the order of £3,000, whereas the supplementary HEFCE funding proposed is £1,500. This will continue a situation in which it will be more financially advantageous to HEIs to recruit undergraduate students to non-science subjects, since they will have to subsidise the real costs of undergraduate science degrees.

The effects are likely to be

- i) reduction in the range of bioscience degree programmes offered and limitation on student choice
- ii) reduction in the total number of bioscience degree places available
- iii) reduction in the funding available to maintain the quality of bioscience degrees
- iv) pressure to decrease the more expensive practical content in bioscience degrees
- v) reduced employability of bioscience graduates who will graduate without necessary practical skills and experience needed for employment

We recommend strongly that HEFCE introduces a funding regime that makes it cost-neutral to recruit science and non-science students to mitigate against these effects. We are concerned over the absence of the biosciences from the list of courses to receive additional non-mainstream funding for 'highest cost' subjects (listed as chemistry, physics and some branches of engineering.) The differentials between subjects within price group B do not appear to be sufficiently great to justify a separate funding stream for a subset of these subjects. HEFCE state that the TRAC data included in the document do not relate to the full costs of running these 'highest-cost' degree programmes as current additional funding of £23 million is not included in these calculations. We feel that further transparency about these figures is needed and we would ask that all Band B subjects be considered for this additional funding stream.

Do you agree that we should provide funding support for postgraduate provision including for price group C, as a transitional approach together with further development of the evidence base for future investment?

The impact of students graduating with large debt from their student loans due to increased fees is likely to have an unsettling impact on the postgraduate sector, the full impact of which may not be seen for a number of years. The HE White Paper was remarkably silent on this very important issue and by focusing completely on undergraduate teaching and funding issues, neglected the complex inter-relationship between undergraduate teaching, postgraduate teaching and research in many universities.

An increasing trend for both employers, and HEIs searching for PhD students, to accept only applicants who have a Masters qualification¹⁰ – either a stand-alone MSc or MRes or an undergraduate Integrated Masters qualification such as an MBIol or MSci – is likely to drive an increased uptake in Masters degree courses in order for students to gain the skills needed to be accepted for a PhD position. However the shift of the cost of undergraduate degrees onto students will be likely to dis-incentivise them from moving on to

¹⁰ PhD study: Trends and profiles 1996-97 to 2009-10, HEFCE (2011) http://www.hefce.ac.uk/pubs/hefce/2011/11_33/

postgraduate taught degree programmes, particularly as there is no route of funding for students who wish to take a taught Masters after an undergraduate degree. Ease of funding for undergraduate degrees is leading more students to take on four year MSci/MBiol programmes rather than postgraduate Masters programmes. This will equip students with good general research skills as delivered by the MSci/MBiol but fewer taking more vocational routes through MSc programmes.

HEIs will be wary of increasing fees for postgraduate taught courses substantially for fear of closing down the market for their programmes and so HEFCE support is essential to prevent the cost of these courses becoming an impossible barrier to HEIs and prospective applicants. The funding provision of £2600 for postgraduate taught courses within price group B is welcome but still does not reflect the significantly higher costs of delivering specialist, lab-based postgraduate taught programmes. These programmes have a high requirement for more specialist equipment and higher cost consumables in order to develop the high level lab skills expected of graduates from postgraduate taught degree programmes, particularly in relation to specialist lab-based research projects.

There is an acute danger that lack of funding may lead to these courses being run for international students only or potential course closures, which would have knock-on effects on further study, affecting the subsequent supply of PhD students. This would be highly damaging to the national interest, sending poor signals about how the UK values science and the UK talent pool and would be detrimental to the UK in terms of innovation, translation and the economy as whole.

We have been asked by Government to consider a new approach to strategically important and vulnerable subjects and whether any subjects may require support to avoid undesirable reductions in the scale of provision. Do you have any comments on our proposed new approach to supporting this area through recurrent funding?

The biosciences, with the exception of biotechnology, were not identified as 'Strategic and Vulnerable Subjects (SIVs)¹¹. One of the weaknesses of the old approach to SIVS was the broad nature of the categories involved. The biosciences as a *whole* are not considered vulnerable, despite the fact that many specific disciplines within the biosciences are. The BBSRC¹² identified whole animal physiology (*in vivo* sciences), industrial biotechnologies, plant and agricultural sciences and systematics and taxonomy as both strategically important for the UK and as vulnerable or likely to become so, and further reports document graduate skills gaps in many other areas of the biosciences^{13,14}.

It is highly possible that there will be further attrition in degrees in these vulnerable and other specialist areas of bioscience, even if overall student numbers in the biosciences do not drop dangerously. We were pleased to see that HEFCE will be taking an approach that considers '*an inclusive definition of 'subject'*,

¹¹ http://www.hefce.ac.uk/learning/funding/201213/DefinitionofSIVS_byJACS30.xls

¹² Strategically Important and Vulnerable Capabilities in UK Bioscience, BBSRC Bioscience Skills and Careers Strategy Panel (2009) http://www.bbsrc.ac.uk/web/FILES/Reviews/0905_bioscience_research_skills.pdf

¹³ Review of the Skills Needs in the Environment Sector www.nerc.ac.uk/funding/available/postgrad/skillsreview/

¹⁴ Skills needs for biomedical research, ABPI (2008) <http://www.abpi.org.uk/our-work/library/industry/Pages/skills-biomedical-research.aspx>

embracing sub-disciplines' which would allow HEFCE to consider individual biological disciplines as strategic and vulnerable.

We are concerned that the new strategy proposed for funding new strategically important and vulnerable subjects is vague and non-specific. The continued support for STEM subjects is to be made through the funding for high-cost and highest-cost subjects. Although we are pleased to hear that HEFCE will be working to '*monitor the health of all subjects ...and make selective, collaborative interventions*' it is not clear what these interventions would be or that this could operate with sufficient speed and precision to identify dangers and respond effectively before irreversible damage has been done. For subjects such as *in vivo* sciences, which have been identified as strategically important and vulnerable and are not currently included in the list of highest-cost subjects, what will be the mechanism for support?

We have proposed a set of principles (listed in paragraph 94) to inform our approach. Do you agree with the principles we have outlined? Do you have any comments on the impacts, positive or negative, that the proposals in this consultation might have on equality and diversity?

With the more market based approach to university finance, students are likely to become increasingly demanding in return for the investment they make in their education. Among other things, their interest in employability will grow. Students will be faced with choosing the courses that provide them with the best employability at graduation, and this is enhanced by better provision and delivery of high cost practical skills that employers, particularly those employing bioscience students, require.

The overall impact of the student number controls and funding arrangements will lead some HEIs to restrict the range of bioscience courses available due to student fees and the HEFCE teaching funding grant not fully reflecting the additional costs of teaching practical subjects such as the biosciences. The probable consequences of this underfunding of science courses is that it is very likely that HEIs may decide that science programmes are unaffordable under the new funding regime and will reduce their teaching of science subjects, eliminating many of their science programmes or redesigning them to remove some of the practical content. This will reduce diversity and choice in the sector and limit the opportunities available to students to study the sciences. This will lead to a much steeper differentiation between courses that provide high quality research-led teaching environments and those that do not. Strenuous effort must be made to maintain integration of research led teaching into the teaching agenda, and ensuring that degrees in STEM subjects are not lost.

The concentration of research into a few elite institutions will lead to geographical limitations on studying STEM which would certainly have widening participation implications, particularly if it occurs in areas of low density of HEIs. These changes will limit the choices available to students who for financial or cultural reasons or because of family responsibilities are constrained to live at home which will impact severely and negatively on equality and diversity.

We gratefully acknowledge the contributions of the Society of Biology's Education, Training and Policy Committee; Professor John Brookfield of the Genetics Society; Professor Jon Scott, University of Leicester; The Physiological Society; and Cogent Sector Skills Council in the formation of this response. The Society of Biology is pleased for this response to be publically available. For any queries, please contact education@societyofbiology.org

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