

## Royal Society of Biology Response to the

### Sub-Committee on Education, Skills and the Economy Apprenticeship Inquiry

The Royal Society of Biology (RSB) 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 individuals, learned societies and other organisations. Individual members include practising scientists, students at all levels, professionals in academia, industry and education, and non-professionals with an interest in biology.

The RSB hosts a variety of professional registers, membership of which recognises professional status and commitment to professional development. These registers include Chartered Scientist, Chartered Biologist, Chartered Science Teacher, Registered Scientist, Registered Science Technician, the UK Register of Toxicologists and the Plant Health Professionals Register<sup>1</sup>. We also offer a range of training opportunities<sup>2</sup>, supporting members to engage with continued professional development (CPD), and encouraging members to record their CPD activities.

We are positive about the government's proposal to support apprenticeships with the ambition to increase the quantity of opportunities available and the dedicated funding for them through the levy. We do have some concerns regarding how these aims will be delivered and potential unintended consequences.

We have addressed four of the questions posed by the sub-committee in our response below.

#### **1. The target of three million apprentices by 2020; how the Government proposes to achieve this; and how this may affect the 'skills gap'.**

The government has committed to initiate three million new apprenticeships within England, between 2015 and 2020. This ambitious target means that there will be a need to significantly increase the number of apprenticeships offered throughout both the public and private sector. As the majority of apprenticeships are currently provided through the private sector, it seems appropriate to focus on the public sector to demonstrate that it is possible to increase the numbers of apprenticeships. We are wary of the use of specific quotas and targets for the recruitment of apprentices as this may lead to gaming. This could have an impact on job security, for example resulting in an increase in shorter term, low hour contracts among employees, reducing numbers of full time employees to below the threshold level of 250, at which a target of 2.3% apprentices within the workforce would apply. Apprenticeships need to be high quality and offer

---

<sup>1</sup>Royal Society of Biology professional registers <https://www.rsb.org.uk/careers-and-cpd/registers>

<sup>2</sup> Royal Society of Biology training <https://www.rsb.org.uk/events?layout=list&type=11>

Charles Darwin House, 12 Roger Street, London WC1N 2JU Tel: +44 (0)20 7685 2550 [info@rsb.org.uk](mailto:info@rsb.org.uk)

good returns to individuals, employers and the economy if they are to be deemed a success, increasing the quantity of apprenticeships should not be to the detriment of quality.

The RSB represents the biosciences and life sciences sector and our members work in a variety of areas (public, private and third sector) however many are academics based in higher education institutions, whilst another large cohort are based in industry, working in laboratories. Working in research and within teaching requires a very specific skill set. Apprenticeships have not been commonly used as routes into all the biosciences, however the RSB is supportive of there being a variety of routes into science to ensure that it is accessible to all. Through the Science Council we have supported the development of the apprenticeship standards for careers within the life sciences including the new laboratory scientist and laboratory technician standards<sup>3</sup>. There is great potential for apprenticeships to support entry into a variety of bioscience areas for example in agriculture, environmental management, forestry, animal husbandry etc.

In 2014 the Biotechnology and Biological Sciences Research Council and Medical Research Council in collaboration with the then Society of Biology held a consultation to identify vulnerable skills within the biosciences<sup>4</sup>. Responses were received from academic research organisations, BBSRC and MRC institutes, centres and units, businesses, professional societies and other organisations with an interest in research skills. Many areas of vulnerability were highlighted, and were grouped into the following categories:

- Interdisciplinarity
- Maths, Statistics and Computation
- Physiology and Pathology
- Agriculture and Food Security
- Core Research and Subject Specific Skills

Skills that enable interdisciplinary research to take place are vital, this requires in-depth knowledge and understanding of more than one discipline. Support is needed for those working across the interface of bioscience, chemical and physical sciences, this has significant impacts upon the biotechnology sector.

Mathematical skills, data analysis and computational skills are required to facilitate working with large data sets, and modelling within bioinformatics.

Additional expertise is required to cover whole organism biology, and particular niche areas within pathology, taxonomy and microbiology.

In regard to agriculture and food security there are particular shortages in areas focusing on plant breeding, entomology and forestry skills,

The ABPI have conducted research to identify skills gaps for the pharmaceutical sector which echoes the findings of the vulnerable skills report that the major shortages are in mathematical and computational

---

<sup>3</sup> Apprenticeship standards: A list of all the standards available <https://www.gov.uk/government/publications/apprenticeship-standards-list-of-occupations-available> accessed 04/03/2016

<sup>4</sup> BBSRC and MRC (2015) BBSRC and MRC review of vulnerable skills and capabilities <http://www.bbsrc.ac.uk/documents/1501-vulnerable-capabilities-report-pdf/>

skills. This dramatically affects areas of emerging interdisciplinary research between biology and maths, where there is high demand for skills across both disciplines<sup>5</sup>.

We are certainly supportive of apprenticeships that develop “transferable skills, and English and maths”<sup>6</sup> that will produce competent skilled individuals, able to gain professional recognition across the whole of the bioscience sector from agriculture to the medical allied disciplines. We would also be supportive of high level and degree level apprenticeships that address some of the skills gaps that have been identified through recent research.

## **2. The proposal for an apprenticeships levy and how this may be implemented**

As the 0.5% levy is applicable to businesses that have payroll costs above £3million, the government states that it expects that the levy will only affect 2% of UK businesses. In sectors which require highly skilled staff with salaries to match the skill set, smaller businesses will feel the impact of the levy.

The levy has potential to drive investment into apprenticeship training for businesses if they are able to take on more apprentices. However, businesses that are already investing in apprenticeships at or near their capacity to support these roles may not benefit from being able to reinvest the allocation into training of apprentices. Some businesses will end up subsidising others and it may adversely affect particular sectors that are already progressively implementing apprenticeships.

It is important that businesses invest in the training of their staff who are working through an apprenticeship but also that they support all staff throughout their career. In order to pay the levy, businesses should not be depleting their training budgets for their other employees; the investment in apprenticeships must not be to the detriment of investment in training the rest of the workforce.

## **3. Routes for progression to higher qualifications for current apprentices**

It is important that all apprenticeship routes offer progression for apprentices. It should be clear how skills and competencies are developed at each level and where equivalencies lie with other professional pathways so that there is the option to transfer between routes. This information should be easily accessible to potential apprentices.

Higher level apprenticeships and degree level apprenticeships have great potential for producing highly skilled people to support STEM industries.

## **4. The quality of, and minimum standards for, apprenticeships, and how standards can be enforced**

The Institute for Apprenticeships will have an important role in setting the standards for apprenticeships and ensuring that employers are able to shape them to meet their needs however with the short timeline to

---

<sup>5</sup> ABPI (2015) Bridging the skills gap in the biopharmaceutical industry. [http://www.abpi.org.uk/our-work/library/industry/Documents/Skills\\_Gap\\_Industry.pdf](http://www.abpi.org.uk/our-work/library/industry/Documents/Skills_Gap_Industry.pdf)

<sup>6</sup> HM Government (2016) English Apprenticeships: Our 2020 Vision [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/482754/BIS-15-604-english-apprenticeships-our-2020-vision.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/482754/BIS-15-604-english-apprenticeships-our-2020-vision.pdf)

implementation of targets and the levy, it is of concern that the Institute for Apprenticeships will not be fully operational until 2017<sup>7</sup>.

As the professional body for the Life Sciences the RSB has significant expertise in supporting education, training and continual professional development within the life sciences through our degree accreditation scheme, training provision and professional registers.

In 2009 the Office for Life Sciences released the Life Sciences Blueprint<sup>8</sup> which identified the support that was required within the life sciences sector. Upon recommendations from the report, in 2010 the then Society of Biology began to undertake the development of an accreditation system for bioscience degree programmes to ensure that they were providing students with the skills to meet the needs of employers. It will be important that all apprenticeships continue to be developed in collaboration between employers, higher education institutions and professional bodies to ensure that the programmes support and develop the skills required for our future workforce.

The Royal Society of Biology offers advanced accreditation for degrees which are academically excellent and prepare students for careers in bioscience research, and degree accreditation for bioscience programmes which develop a solid academic foundation in biological knowledge and key skills. To date 23 institutions covering 210 programmes have achieved advanced accreditation and 16 institutions with 101 programmes have achieved degree accreditation.<sup>9</sup>

Mapping the skills developed during apprenticeships to the competencies required for professional registers - for example registered science technician (RSciTech) - demonstrates that the qualifications are meeting and maintaining the high standards expected by professional bodies.

We believe that it is vital that links between employers, Higher Education Institutions and Learned Societies are maintained to continue to support the development of new high quality apprenticeships.

---

<sup>7</sup> HM Government (2015) The future of apprenticeships in England  
[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/487350/BIS-15-632-apprenticeships-guidance-for-trailblazers-december-2015.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/487350/BIS-15-632-apprenticeships-guidance-for-trailblazers-december-2015.pdf)

<sup>8</sup> Office for Life Sciences (2009) Life Sciences Blueprint <https://www.biocity.co.uk/file-manager/Group/reports2009/2009-07-ols-life-science-blueprint.pdf>

<sup>9</sup> Royal Society of Biology Accreditation <https://www.rsb.org.uk/education/accreditation> accessed 10/03/2016