2 FEBRUARY 2012

APPRENTICESHIPS

SUBMISSION TO THE HOUSE OF COMMONS
BUSINESS, INNOVATION AND SKILLS
COMMITTEE INQUIRY

GATSBY

ABOUT GATSBY

1 Gatsby is a Trust set up in 1967 by David Sainsbury (now Lord Sainsbury of Turville) to realise his charitable objectives. We focus our support on a limited number of areas:

- Plant science research
- Neuroscience research
- Science and engineering education
- Economic development in Africa
- Public policy research and advice
- The Arts

INTRODUCTION

2 The Committee is likely to receive a large number of submissions from a range of interested organisations. We have therefore kept our submission brief, and focused on the Committee's questions about the quality of apprenticeships and whether more are required at Level 3. Our submission is also restricted to an assessment of apprenticeship provision in science, technology, engineering and mathematics (STEM) – the areas in which Gatsby has a particular interest.

3 Throughout this submission, the term 'apprenticeship' is used to refer to the government-funded apprenticeship scheme. We recognise that many employers provide training using the apprenticeship model but choose not to accredit this training as part of the government-funded scheme. Exploring this widespread practice more closely may be beyond the scope of this Inquiry, but we believe it is an area that warrants further investigation in the future.

APPRENTICESHIPS AND TECHNICIANS

4 The UK has a shortage of technicians – people working at qualification Levels 3 and 4 in the high-growth science, engineering and technology (SET) sectors. The 2010 National Strategic Skills Audit forecast problems for employers who are seeking to fill technician roles in in a number of sectors, including health care, oil, gas, electricity, chemicals, pharmaceuticals, transport equipment and broadcasting.[1] Without significant and sustained action, these predicted shortages will worsen in the coming decades.

5 Advanced Apprenticeships (Level 3) in STEM are an excellent way to train people who want to work as technicians. However, in 2009/10 just 14% of apprenticeships were Advanced Apprenticeships in STEM areas.[2] Furthermore, whilst overall apprenticeship numbers have grown rapidly in recent years, engineering apprenticeships accounted for just 2% of apprenticeship growth since 2006/07.[3]

6 While STEM apprenticeship numbers have been declining, an increasing number of employers have been recruiting graduates to fill their technician jobs. However, recent evidence shows that employers are beginning to re-evaluate this practice. Many organisations have found they now lack sufficient practical understanding and competences within their technician workforce – skills which are best acquired through Advanced Apprenticeships.[4] In order to help employers rebalance the mix of skills

[1] *Skills for Jobs: Today and Tomorrow*, UK Commission for Employment & Skills, 2010
[2] *FE STEM Data Project*, The Royal Academy of Engineering, 2011
[3] *Adult Apprenticeships*, National Audit Office, February 2012
[4] *Science, Engineering and Technology Technicians in the UK Economy*, Mason G, forthcoming

amongst the technician workforce, there needs to be a significant increase in the provision of Advanced Apprenticeships in STEM.

INCREASING PROVISION OF ADVANCED APPRENTICESHIPS IN STEM

7 Recognising the need to encourage the growth of Higher Apprenticeships (Level 4+), the Government created a Higher Apprenticeship Investment Fund in 2011. We welcome this approach, but believe it is important the Government maintains a strong focus on enhancing quality and quantity at the Advanced Apprenticeship level (Level 3).

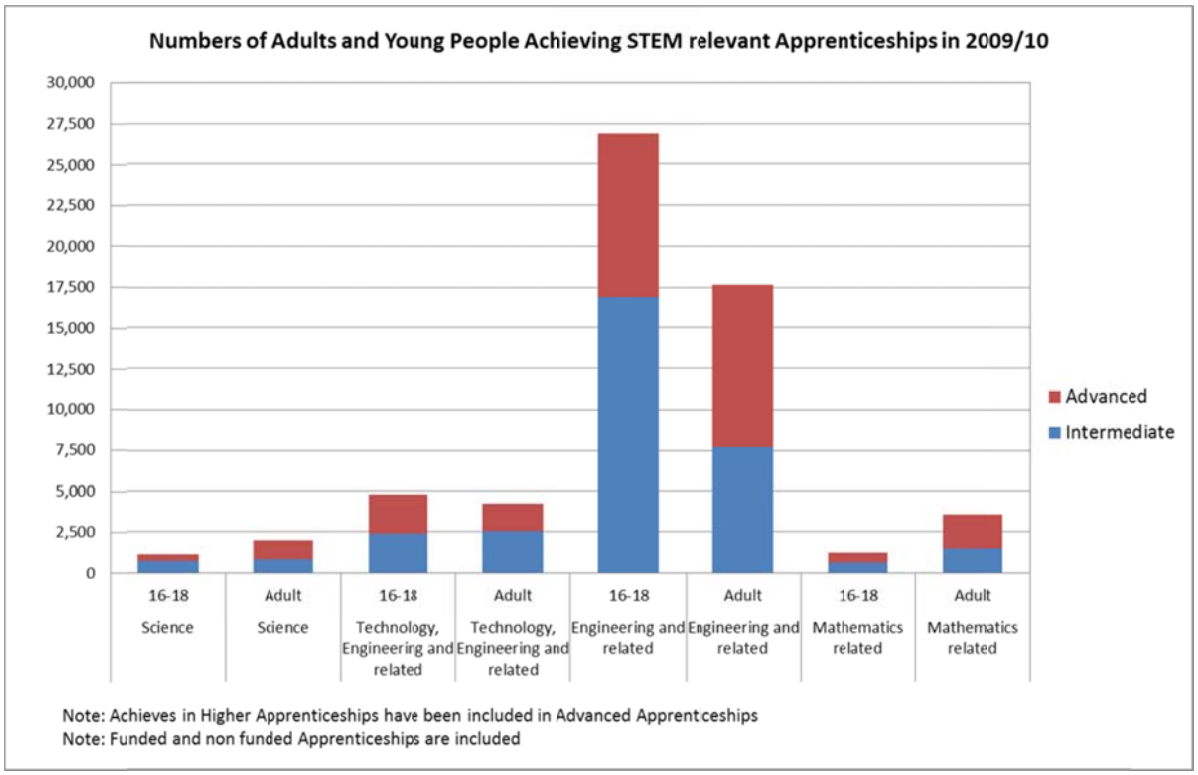
8 Gatsby recommends that the Government creates an *Investment Fund for Advanced Apprenticeships in STEM*, further prioritising apprenticeship funds to increase provision in the economically-important SET sectors. Encouraging employers and their representative bodies to bid for these funds directly will help to maximise employer involvement in the training of apprentices, ensuring a more sustainable model that closely matches the needs of employers.

9 We further recommend that any such fund should seek to halt the current decline in the number of young people training in Advanced Apprenticeships – in 2010 only a third of Advanced Apprenticeship starts were by people under the age of 19. As a recent paper by the Centre for Economic Performance notes:

'*The failure to ensure that each cohort of young people gains the skills needed for productive employment ensures that we will continue to struggle to make good this deficiency in their later working lives. Adult apprenticeships may be needed now to make good the deficiencies of the past. But if good quality apprenticeships were also there for young people in the numbers needed, adult retraining would no longer be so necessary.*'[5]

10 As we have noted, Advanced Apprenticeship numbers in STEM are declining from an already low base, and, as the chart on the next page shows, science apprenticeship provision is particularly poor. An investment fund, such as the one we have recommended above, could help to break science's poor record in apprenticeship training. We believe that technician occupations in science are well-suited to the apprenticeship model – incentives from government, which encourage employers to take ownership of apprenticeships, could help to ignite apprenticeship provision in science and thus stimulate a renaissance in the provision of vocational pathways to the science professions.

[5] *Apprenticeship policy in England: Increasing Skills versus boosting young people's job prospects*, Centre for Economic Performance, 2011



Source: FE STEM Data Project, Royal Academy of Engineering, 2011

ADVANCED APPRENTICESHIPS AND PROFESSIONAL REGISTRATION

11 One of the ways in which Gatsby is seeking to raise the status of technicians is through professional registration. We are working with the Engineering Council, the Science Council and the relevant professional bodies[6] to help increase the number of professionally registered technicians in the UK workforce.

12 To become registered, a technician proves their competence to perform professional work to the necessary standards by, for example, providing evidence that they have certain skills. The individual must also demonstrate their commitment to maintain competence and work within professional codes of conduct. In STEM, the registration framework being developed will provide a vocational ladder to the professions, comprising three 'rungs' of professional standards, beginning at Level 3, with 'Registered Technician' (EngTech, ICT-Tech, RSciTech) and concluding with 'Chartered' status (CEng, CSci, CPhys, etc). Professional bodies will set the benchmarks for these standards and map qualifications against them.[7]

13 One of the main advantages of technician registration is that it enables entry to the professions through an apprenticeship route. For example, as the table overleaf shows, an apprentice can register with their professional body as an Engineering Technician (EngTech) after completing an Advanced Apprenticeship, and then progress on through professional development to become an Incorporated Engineer (IEng) or Chartered Engineer (CEng).

[6] Eg. Royal Society of Chemistry, Society of Biology, Institution of Mechanical Engineers, Institution of Civil Engineers, etc, etc.

[7] For further information about technician registration, see the Gatsby website: www.gatsby.org.uk/Education/Focus-areas/Promoting-Technical-Skills.aspx

Title	Designation	Threshold	Route
Engineering Technician	EngTech	Level 3	Advanced Apprenticeship
Incorporated Engineer	IEng	Level 6	Higher Apprenticeship
Chartered Engineer	CEng	Level 7	

14 Another crucial advantage to registration is the stability and assurance of quality that it brings to qualifications and training routes. The professional standards, which are set and administered by the professional bodies, are designed and updated in close consultation with employers. Professional registration holds value in the labour market: employers understand and trust registration as a mark of competence. Closely linking technician registration to Advanced Apprenticeships in STEM will help to assure the quality of apprenticeships to employers. It will also make it straightforward for apprentices to register as technicians upon completion of their apprenticeship, thereby engaging apprentices with the principles of professionalism and career progression.

15 At present, only a limited number of Advanced Apprenticeship frameworks have been approved by professional bodies for technician registration. The Government should actively incentivise closer collaboration between sector skills councils and professional bodies to ensure that more Advanced Apprenticeships in STEM meet the standards required for technician registration. Where apprenticeships are approved for registration, it is important that this fact is clearly communicated to both employers and apprentices.

CONCLUSION

16 The UK economy urgently needs more technicians operating at Levels 3 and 4 in high-skilled, growth sectors. Advanced Apprenticeships in STEM are an excellent way to train both young people and adults with these technical skills. However, not enough STEM employers are currently engaged with the apprenticeship system and this situation is unlikely to change unless Government takes positive action.

17 Gatsby recommends that:

- Government prioritises apprenticeship funding towards economically important growth sectors by creating an Investment Fund for Advanced Apprenticeships in STEM. This funding model could operate in a similar way to the existing Higher Apprenticeship Investment Fund, although we recommend a firm requirement of the new fund is that at least one professional body is included as a partner in every bid.
- Government, through the National Apprenticeship Service, encourages sector skills councils to collaborate closely with professional bodies to ensure that more Advanced Apprenticeships in STEM match the standards required for technician registration. This will help to assure the quality of apprenticeships, and open up entry to the professions via an apprenticeship route.

18 We would welcome the opportunity to discuss with the Committee the points raised in this submission. In the meantime, any questions regarding its content should be directed to:

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