10 OCTOBER 2011

ATTRACTING, TRAINING AND RETAINING THE BEST TEACHERS

SUBMISSION TO THE HOUSE OF COMMONS
EDUCATION 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 Gatsby recognised some time ago that the only way to achieve our ambitions regarding the supply of science, technology, engineering and mathematics (STEM) skills to the UK workforce was to ensure that young people were taught by well-qualified and motivated specialists.

3 Over the last decade Gatsby has worked with a variety of teacher training providers in a range of universities looking at ways to enhance and improve initial teacher training and improve teacher retention.

4 The majority of our work has focused on the recruitment, training and retention of physics teachers. However, the issue of specialist teachers is of significance across the curriculum and lessons learned from our work with physics teachers are applicable to other subjects, in particular maths chemistry, and modern foreign languages.

5 We suggest that as part of its Inquiry the Committee should examine:

- whether current and proposed entry requirements will ensure that the best teachers are recruited into teaching;
- whether the DfE has sufficient relevant data to know if training and retention strategies are actually working;
- what targets for the number of specialist physics and chemistry teachers the DfE plans to put in place; and
- what strategies the DfE has to reduce the attrition of early career teachers.

MEASURING SUCCESS

6 The importance of subject specialism in secondary school teaching cannot be over emphasised. Report after report has come to the same conclusion: that the quality of an education system cannot exceed the quality of its teaching workforce. The teaching of science continues to suffer because there are too few specialist physics teachers working in schools.

7 It is vital that alternative routes into teaching shortage subjects are maintained. Over the last decade Gatsby has worked with the TDA, Royal Society of Chemistry and Institute of Physics to develop Subject Knowledge Enhancement (SKE) courses, both prior to initial teacher training and as professional development courses for existing teachers.

8 Gatsby is supportive of the aim of raising the bar to entry to initial teacher training in order to improve the status of teachers. However, we are concerned that the funding arrangements described

in the DfE's proposed improvement strategy might create a perverse situation where an individual with a first class degree in, say, music could undertake a physics enhancement course and be immediately eligible for a £20,000 bursary, while a contemporary with a 2.1 physics degree from a Russell Group university would receive just £15,000.

9 We suggest that some flexibility needs to be built into the system by applying rules similar to those used for postgraduate training funded by the government Research Councils, whereby degree class can be enhanced by postgraduate qualifications or relevant work experience and exceptional circumstances are taken into consideration.

10 A significant issue for current SKE courses has been the lack of common standards and variation in the way course specifications have been interpreted. This lack of consistency around the expected levels of subject knowledge and subject pedagogy has resulted in considerable variation in the rigour of the courses and hence the quality of the teachers they produce.

11 We believe that this issue should be addressed through tests that assess subject knowledge and create a common standard for 11-16 teaching and 11-18 teaching. Subject knowledge testing could allow a route into teaching for those with poor quality degrees but with a commitment to improving the quality of their subject knowledge. The tests could also provide a definition of a specialist teacher. In science, until a teacher passed the test they would be regarded as a 'science teacher' but not a 'specialist physics teacher' or 'specialist chemistry teacher'.

12 We are currently working with the Institute of Physics and Royal Society of Chemistry to create diagnostic physics and chemistry tests to support the development of teachers' subject knowledge. These tests could be adapted to set a subject knowledge standard for those entering initial teacher training or on completion of an SKE course. Gatsby would be keen to work in partnership with government to develop these pilot tests further if there was interest from the DfE.

THE STRUCTURE OF INITIAL TEACHER TRAINING

13 Gatsby has trialled several small-scale pilots with PGCE courses where subject knowledge is enhanced by intensive, additional tuition. The conclusion from each one of these pilots has been the same: such approaches do work but to secure systemic change the science PGCE needs to be lengthened (from 36 to perhaps 42 weeks) to cover the subject knowledge necessary to teach the full range of school science(s) confidently and effectively.

14 Given the depth and breadth of work that needs to be covered within the training of a science teacher, we suggest the Committee considers how more innovative approaches to teacher training might be incentivised, including the piloting of longer PGCE courses.

PROFESSIONAL DEVELOPMENT & MENTORING

15 Gatsby strongly believes that there are significant variations in and problems with the support received by teachers during their training and early career, regardless of training route. This impacts both teacher quality and retention.

16 It is sometimes assumed that new teachers do not have any further need to develop subject knowledge and subject pedagogy as this has been dealt with during ITT. As a result they receive very little subject based support in their classrooms. But this support is vital not just in ensuring students benefit from high quality lessons but also in building the confidence of new teachers. Without support many new teachers struggle and consequently leave the profession. This problem is particularly acute in physics as newly qualified physics teachers often find themselves as the only physics specialist in their school and have nowhere to turn for subject specific support.

17 Gatsby has been working with the Institute of Physics (IOP) over the past eight years to develop a mentoring programme for physics teachers in their early career, providing them with support from experienced physics teachers working in other local schools and helping them to become a part of the wider science and physics teaching community. Independent evaluation has shown that this mentoring can improve retention and that both individual teachers and schools as a whole can see significant benefits from such programmes. We believe such support should be provided to all new physics teachers rather than on the 'opt-in' basis that has been piloted by the TDA in the past.

18 We have commissioned Sheffield Hallam University to undertake research examining the effectiveness of a number of teacher mentoring programmes, including the recently ended TDA-funded pilot and the IOP's Stimulating Physics programme, as well as work previously supported by Gatsby. The final report of this research will be published in early 2012.

CONCLUSION

19 Recruiting and retaining high quality teachers is a long-standing problem. The problem is particularly acute in the area of physics teaching. We, and others in the education community who have studied the issues over the years, are firmly of the opinion that the best chance of success lies in a partnership approach between government and those organisations who best understand the community and landscape.

20 After more than a decade of devising and evaluating programmes to address physics teacher shortages, Gatsby has amassed a unique body of knowledge relating to what works and, equally as important, what does not. Although our work is primarily supporting physics teaching, many lessons are transferable to other curriculum areas.

21 We would welcome the opportunity to discuss with the Committee the points raised in this submission. Any questions regarding its content should be directed to:

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