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CaSE response to teacher-training proposals

1st August 2011

This is CaSE's consultation response to the Department of Education's report *Training our next generation of outstanding teachers* which can be found here. The report discussed the quality of teacher trainees, the effects of better investment and the reform of teacher training.

Answering the questions set out by the Department of Education, CaSE aimed to give its view of the

report and make suggestions.

Section headings:

1. a) Do you think the proposals for enhancing selection will improve the quality of new teachers? These include more rigorous entry testing, a focus of inspection on how ITT providers' choose which candidates to offer training places to, and the offer for schools to select and help train the trainees that will go on to work in their school.

More Rigorous Entry Testing

It seems probable that more rigorous entry requirements will improve the quality of new teachers. We consider the three elements of these proposals in turn.

First, there are plans to raise the academic expectations for recruits; it seems that this will primarily be achieved through giving higher bursaries to graduates with higher degree classes (discussed in more detail under point 6 below). It should be recognised, though, that there are current issues around degree class being an imperfect indicator of potential, due, in part, to differences between universities.

The forthcoming Higher Education Achievement Report (HEAR) could help standardise achievement measures and provide a more reliable basis to allocate bursaries upon and we recommend that the DfE work with HEFCE to explore this in more detail.

Second, there are plans to strengthen tests of literacy and numeracy and give them prior to teacher training – this seems sensible.

Finally, there are plans to increase the rigour of assessment of candidates' interpersonal skills. We are somewhat wary of this. It is reasonable to assume that performance on certain tests of interpersonal skills will vary systematically across people attracted to study different subjects. It is therefore vital that candidates are compared to each other within a particular subject and not across the system as a

whole. It is easy to imagine how this will happen for secondary school trainees where applications are made for specific subjects.

However, it will be necessary to ensure that certain subjects are not disadvantaged when selecting graduate applicants for primary school teacher training, given that there are no subject-specific recruitment targets in this sector. There is a great need for more mathematics and science graduates in primary schools (see response to question 6 below) and a new emphasis on personality testing must not work against these applicants.

The risk is that, for example, mathematicians might on average score lower on personality tests than, say, English graduates. The primary school recruitment system might then favour English graduates overall, leading to consistent under-representation of mathematics expertise in the teaching staff of primary schools. This is clearly an issue which needs some consideration.

Centralising the Application System

The centralised application system should streamline the recruitment process. We hope that it will also allow oversight of the reasons why applicants are turned away in shortage subjects for which recruitment targets are not being met. For example, 180 physics graduates were turned away from teaching in 2009, at a time when we have a shortage of more than 4,000 physics teachers nationally.

It may be that some of these applicants were simply not given sufficient priority by the training providers, and that centralising applications would allow this. On the other hand, if particular reasons for unsuccessful applications were identified, it might be possible to minimise them in the future.

b) Are there other approaches DfE should consider?

Appealing to a broader range of highly-qualified candidates

There are graduates in many subjects that could be targeted for teacher training but currently are not. We would be very interested in seeing the government run a concerted campaign to encourage more engineers to become maths and physics teachers, for instance. Nearly 15,000 engineers graduated in England last year, compared with around 5,500 mathematical scientists and 2,200 physicists.

The TDA have confirmed that most engineers can register for secondary ITT as maths and physics specialists. However, a pilot study at Warwick showed that engineering students may not understand how their competencies map onto teaching, especially of physics.

Improving Retention

Attempts to improve retention may well make the profession more appealing and enhance recruitment. The paper hardly deals with retention, despite stating within the second aim of the reforms (page 3) that the government will refocus “investment in teacher training so that it is effective in attracting and retaining in teaching more of the best graduates”.

Data from 2008-09 show that only around 71% of those enrolling in postgraduate teacher training go on to get Qualified Teacher Status and enter into teaching[1], and older data found that only half of science and mathematics teachers were still in the profession 5 years after graduating[2]. There is clearly much room for improvement.

Data show that more highly-qualified trainees give better retention and the Government may be relying on its strategy of increasing the number of post-graduate recruits with higher degree classes to enhance retention.

The idea of paying off student loans for teachers whilst they are in the profession has been previously floated. Such financial incentives may be necessary if retention decreases as the economy picks up (especially for men), as the wage disparity between teaching and other careers increases[3].

The Government is proposing to expand the Teach First scheme which has been effective in both attracting talented young graduates into teaching who might otherwise not consider it and placing them in the most needy schools. However, this scheme is marketed as one in which participants teach *first*, prior to moving onto their subsequent career.

Although an impressive 90% of participants stay in teaching for two years (the minimum that they are asked to commit to), this drops closer to 50% that stay longer[4]. The high level of mentoring which presumably contributes to the initially impressive retention rates could be usefully adopted more widely. But note that if a higher proportion of new teachers enter through Teach First, workforce planning will need to take into account their particular retention pattern.

We recommend that the Government develop clear plans to enhance teacher retention outside of the Teach First scheme to preserve teacher numbers and get the best value out of its investment in teacher training.

Professional Development

We recommend that the Government extend its focus from initial teacher training to continuing professional development (CPD). It is hard to imagine covering all aspects of training in the initial period and in many subjects, especially science, technology, engineering and maths (STEM), and there is a need to keep up with current developments, most pronounced in the sciences. Access to high-quality professional development could also enhance retention.

We welcome the recently announced CPD scholarships of up to £3,500, but strongly recommend that this scheme be adapted so that some funds can be used for paying for the overall cost of teachers taking CPD, rather than just the CPD itself. Because of “rarely cover” guidelines, or for other financial reasons (include a lack of personal funds for travel etc.), many teachers find themselves unable to access CPD.

For these reasons the privately-funded Project Enthuse, and the DfE-funded Project Impact, allow grants to be spent on additional costs (such as travel, cover, etc.) as well as the CPD itself. The new scholarship restricts spending to that directly on training and is thus inconsistent with other schemes.

This may mean that uptake of the scholarship is more prevalent in schools which actively prioritise STEM or those with more financial resources (or to teachers with more personal resources).

2. What are your views of the vision of schools leading teacher recruitment and training, working in partnership with universities and other ITT providers as they require?

We have serious concerns about Teaching Schools dominating teacher training. The consultation document suggested that progression towards this goal would be over the next five to ten years, yet the first 100 Teaching Schools have just been announced. We have a general concern that trainees

having only experience of outstanding schools would be ill-prepared for teaching in other environments.

We have more specific concerns over whether all Teaching Schools will be able to deliver appropriate subject-specific knowledge in science and maths – all outstanding primary schools do not necessarily have expertise in maths and science, and all outstanding secondary schools do not necessarily have subject specialists in each of the sciences. Furthermore, secondary science teachers often need to acquire a particularly high level of subject specific knowledge as they are frequently required to teach across all of the sciences, sometimes up to GCSE or even A level.

We were disappointed to see the misleading representation of the NQT survey data. The strategy states that "Trainees who follow teacher training programmes that are led by schools, such as Graduate Teacher Programme, are more likely to find their training provided relevant knowledge, skills and understanding to teach their specialist subject" (page 14). It is only a footnote that says that this finding is restricted to the primary sector.

In contrast, 80% of secondary NQTs rated their training as very good or good for providing them with the relevant knowledge, skills and understanding to teach their specialist subject, compared with 74% for Employment Based Routes[5]. It is not clear whether the 80% includes EBR or not, but, either way, *secondary teacher trainees found that programmes led by schools trained them less well to teach their specialist subject*.

It is also unclear how proposals to allow schools to "recruit and select trainees" (page 15) run alongside a single system for applications. It is vital that there is a system that oversees the system as a whole to ensure that recruitment targets are met and shortage subjects prioritised.

6 a) Do you agree that we should offer more financial support to trainees with good degrees and maths and science specialists?

We welcome and very much appreciate proposals to incentivise applicants to train as mathematics and science teachers. We understand that linking bursaries to degree class is intended to raise the status of teaching and increase the numbers of highly-qualified applicants. However, there is a high proportion of teacher trainees in shortage subjects with less than a 2:2 in their first degree (e.g., 26% in Physics).

It is vital that recruitment levels are monitored to make sure that any reduction of recruitment of graduates with 3rd class degrees is off-set by the increase in recruitment amongst better-qualified graduates with a 2:1 or 1st. If this is not the case, then a rapid intervention will need to occur.

Clarification of Eligibility

We assume that:

1. Key Stage 2/3 trainees would be eligible for the higher rate bursaries;
2. Engineers would qualify for bursaries if they train as maths or science teachers (see response to question 1 (b)); and
3. Applicants that have taken specific courses designed to enable them to become specialist teachers would qualify (e.g., a biology graduate that has taken a pre-ITT subject enhancement course to enable him or her to train to teach physics).

We recommend exploring extending the high priority specialisms to include Computer Science graduates – there is a woeful shortage of teachers with expertise in this area.

b) Do the proposals for funding in chapter three strike the right balance in the different levels of funding individuals?

The UK particularly needs more specialist teachers in science and maths, so we support extra funding for bursaries in these subjects. The variation of funding with degree class and subject look appropriate, but it is hard to know how they will actually impact upon individual choices and therefore recruitment levels, particularly as there is still much uncertainty over course fees.

Perverse Incentives for Primary School Trainees

We are very much concerned by the level of funding offered to primary school trainees who are STEM graduates. Ofsted has stated that "Many teachers, particularly in primary schools, lack the confidence to teach science well because they don't know enough about the subject and have had too little professional training"[6]. The Williams Review (2008) estimated that the 17,361 English primary schools share just 3,000 mathematics specialists and recommended that every primary school should have a specialist maths teacher[7].

CaSE wholly supports this recommendation and would like to see it extended to include a science specialist in every primary school. Unfortunately, the number of mathematics or science graduates training as primary school teachers has fallen possibly due to incentives drawing potential applicants into the secondary sector[8].

We believe that the incentives for primary teacher training for graduates in priority subjects should be the same as for secondary schools.

The Government's ITT proposals currently provide for secondary teacher trainees in shortage subjects to receive a bursary of up to £20,000, but for primary teacher trainees – even those qualified in maths, physics and chemistry – to receive only a maximum of £9,000.

To extend the bursaries to primary ITT recruits with maths, physics or chemistry degrees would cost little and could help prevent the declining number of recruits of this sort. TDA data show that, in 2008/9, there were 27 primary ITT recruits with a 2:2 or above in maths, physics or chemistry (in fact, they were all mathematicians). It would have cost £297,000 to extend the bursaries for secondary school shortage subjects to primary school recruits (see the table in the appendix).

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[1] *The good Teacher training Guide 2010*, Smithers & Robinson, Centre for Education and Employment Research, University of Buckingham

[2]*State of the Nation report on Science and Mathematics' teaching,* Royal Society, December 2007

[3] *What impact does the wider economic situation have on teachers' career decisions? A literature review. DfE*, 2010.

[4] http://www.teachfirst.org.uk/OurWork/ accessed 26/07/2011

[5] *NQT survey,* TDA, 2010, page 20.

[6] *Success in Science*, Ofsted, 2008

[7] Williams (2008). *Independent Review of Mathematics Teaching in Early Years Settings and Primary Schools*, Department of Children Schools and Families.

[8] The number of STEM graduates entering into PGCE primary courses dropped from 428 in 2004 to 227 in 2006; *State of the nation' report - the UK's science and mathematics teaching workforce*, The Royal Society, December 2007.

Appendix

Classification of First Class Degree by Subject of Postgraduate ITT course (final year students) by Course type A/Y 08/09 (via HESA)

		Classification of first degree (UK)									
Course type	Subject (JACS)	Total with 2:1 and above	Total with 2:2 and above	1st	2:1	2:2	3	Pass	Class not known	Undefined	Total
Primary	Biology	**20**	**23**	**4**	**16**	**3**	**1**	**0**	**0**	**0**	**24**
		83%	96%	17%	67%	13%	4%	0%	0%	0%	100%
	Mathematics	**22**	**27**	**5**	**17**	**5**	**0**	**0**	**0**	**0**	**27**
		81%	100%	19%	63%	19%	0%	0%	0%	0%	100%
	*Increased cost of bursary (Phys, Chem, Maths)***			*55000*	*170000*	*35000*	*0*	*0*	*0*	*0*	***£260,000***
	Total	6,184	9,432	748	5,436	3,248	166	196	140	18	9,952
		62%	95%	8%	55%	33%	2%	2%	1%	0%	100%

**This line calculated by CaSE. Extra cost for 1sts is £11,000 (£20,000 for secondary, minus £9,000 for primary), for 2:1s is £10,000, and 2:2s is £7,000.
