The Association for Science Education

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A response to the Institute for Public Policy Research report 'Beyond the plateau: The case for an institute for advanced teaching'

ASE Response - 9 November 2016

The Association welcomes any initiative which seeks to close the educational attainment gap between economically less advantaged children and their wealthier peers, and which ensures that young people leave compulsory education with the knowledge, skills and characteristics they need in order to thrive in the modern world. In addition to closing attainment gaps, ASE is committed to developing young people's science capital and aspirations, as well as to supporting breadth and depth in their science studies.

We acknowledge the impact of high quality science teaching on pupils' educational opportunities, and agree with the suggestion that teachers need to be valued as learners throughout their careers and be provided with the time, finance and encouragement to further their professional learning beyond the training they receive at the start of their career. ASE is actively engaged on a number of fronts in working with teachers at all stages of their careers to continuously improve the quality of children's science education in the UK. One of the difficulties has been the fact that sustainable professional development requires extensive and prolonged time input, which may require school leaders to release teachers from some teaching and other duties. We would welcome the opportunity to work with the report's authors to overcome this barrier, which presents both financial and logistical challenges for schools.

ASE welcomes the encouragement of Master's level in-service education for teachers. However, the group was not certain why the report's authors had decided to emphasise school-led professional learning for teachers. Many professional learning courses and other professional development opportunities are designed by partnerships between academics and practising teachers, and we should recognise that these partnerships and their programmes are a real achievement of our system. The situation in the US is very different, and we would question whether or not it is truly comparable to the UK. Similarly, the ASE would wish to caution against

comparisons with Singapore and China, since it is unclear to us whether differences in outcomes in the PISA tests may be attributed to better pedagogy.

Our experience of working with colleagues from many countries around the world suggests that the UK is still seen as one of the leading educational contexts with world class educational academics and expert professional development opportunities. ASE would like to question the report authors' view of the many successful Master's programmes already taking place in UK universities, which include world-leading expertise in the field of science education. We would politely suggest that such programmes are often transformational of teachers' practices. They are aimed at improving learning and teaching in schools in a valid and meaningful way, and teachers finish them reflecting and reporting on their positive impact on their classroom practice and their pupils' learning outcomes. The ASE would argue that it is programmes such as these that enable teachers to integrate 'craft' and an academic approach with an emphasis on active engagement with evidence based research.

We would, however, welcome the opportunity to work with the report's authors to further develop these programmes. ASE feels that it is important to develop teachers' subject-specific expertise, and there is perhaps room for further discussion and collaboration with the subject professional associations – ASE, Royal Society of Biology, Royal Society of Chemistry and the Institute of Physics as well as STEM Learning and the College of Teaching about how we can build upon current good practice and mechanisms already in place to recognise effective science teachers at different stages of their career: CSciTeach and RSci both of which provide recognition of expertise, experience and commitment and a framework to support future career development.

ASE welcomes the focus on retention of teachers, noting that attrition of science teachers is known to be higher in science than in other subject specialisms, and that this appears to be a feature across different routes into teaching. We would be open to involvement in research and/or further discussion to work out how sufficient numbers of effective teachers could be incentivised to work in schools in areas of challenge, in order to make a significant and sustainable difference to children's education and life chances.