## Post 16 Maths: HE and other engagement

Herewith is a summary of engagement with key stakeholders in HE– university senior leaders, heads of university admissions, learned societies, professional bodies, subject associations, on a number of fronts relating to Core Maths, and other engagement. (There is a similar level and range of activity with another set of stakeholders in the school and college sector outlined on page 2.)

- I have visited the following universities to give institution-wide briefings on Core Maths (and post-16 maths signalling more widely): Bath, Birmingham, Birmingham City, Brighton, Bristol, Brunel, Cambridge, Cardiff, Central Lancashire, City, Coventry, De Montfort, Durham, Essex, Exeter, Greenwich, Harper Adams, Imperial College, Lancaster, Leicester, Liverpool, London School of Economics, Loughborough, Kent, King's College London, Manchester, Newcastle, Nottingham, Queen Mary, Oxford Brookes, Plymouth, Portsmouth; Sheffield, Sheffield Hallam, Southampton, Sunderland, Surrey, Sussex, UCL, UEA, Warwick, York, 2015-17. (44 'endorsement' statements, including 20 individual statements from the Russell Group of 24 leading universities, and additionally a statement in *Informed Choices*, the Russell Group of 24 leading UK universities' guide to making decisions about post-16 education.
- 2. Presented and was part of an expert panel and plenary session at a Qualification Reform event held at Queen Mary, University of London.
- 3. I presented to and had discussions with the Pro-Vice Chancellors of the Russell Group universities at one of their meetings: 24 attendees.
- 4. Meeting and presentation to Heads/Directors of Admissions of the Russell Group universities at one of their meetings: discussions with RG Admissions Chair and RG Qualifications Committee (Informed Choices statement success.)
- b) Invited presentations at a number of National Conferences and Workshops on Core Maths and Post-16 Maths to delegates from universities (100+ events) including: WEF, RSS, CETL-MSOR, Keynote, UCAS, Higher Education Academy (HEA), Policy UK, ACSL, AoC, Understanding ModernGov, Leaders in Mathematics Education (LLME), Telegraph Festival of Education, ASFC, Inside Government, Westminster Briefing, STEM Learning, NANAMIC, Capita, MMSA, IMA.
- c) Meetings with British Academy; RGS; Q Step/Nuffield; CBI; ASCL.
- 5. Meetings with Professor Sir Adrian Smith on the Post 16 Review.
- 6. Meetings and presentations to the Royal Society, Royal Society of Chemistry and Royal Society of Biology on Post 16 and other mathematics reforms.
- 7. DfE Workshops in London and Manchester on the Post 16 Review with Professor Sir Adrian Smith, the Post 16 Review Team, and various stakeholders.
- 8. Times Higher Education article: 'It's not only maths students who need a solid grasp of statistics'.
- 9. Meetings with:
  - a) President of Universities UK (UUK), Professor Sir Christopher Snowden, President and Vice-Chancellor of the University of Surrey and now Southampton, and Member of the Prime Minister's Council for Science and Technology (CST).
  - b) President of UUK, Professor Dame Julia Goodfellow, Vice-Chancellor of the University of Kent, member of CST and responsible for STEM Education within CST.

- c) Maddalaine Ansell, Chief Executive, University Alliance.
- d) Director of OFFA, Professor Les Ebdon.
- 10. I am in the unique position of having been the only person involved in all aspects of the recent reform of A and A levels in Mathematics and Further Mathematics through being a member of the: A Level Content Advisory Board (ALCAB); Ofqual External Subject Expert Panel on Conditions and Requirements, and Guidance; Ofqual Working Group on Mathematical Problem Solving, Modelling and the Use of Large Data Sets in Statistics; Ofqual External Subject Expert Panel (as the Overarching Reviewer) for the accreditation of all AS and A Levels in Mathematics and Further Mathematics.' (See: https://journals.gre.ac.uk/index.php/msor/article/view/508.)
- 11. I am in the unique position of having been the only person involved in all aspects of the recent introduction of Core Maths having reviewed the Core Maths (CM) qualifications for the DfE, and being a consultant to the Core Maths Support Programme (CMSP) and a member of the Senior Advisory Boards for Teaching, Managing, Promoting CM, and the DfE/HE Group on CM, as well briefing universities on Core Maths, and post-16 mathematics more generally, following an invitation to them from BIS to find out more about Core Maths. <u>https://www.dropbox.com/sh/i6ppvmlz63o8r0i/AAA59ZBK7u3s6QoE8ddoOBs5a?dl=0</u>.

## Post 16 Maths: school/college engagement

Herewith is a summary of engagement with key stakeholders in schools and colleges, including school heads and college principals, senior and middle leaders, teachers and lecturers, on a number of fronts relating to Core Maths. (There is a similar level and range of activity with another set of stakeholders in the HE sector outlined on page 1.)

- a) Presentation at National information events on Core Maths and Post 16 organised by FMSP/CMSP/NCETM/Maths Hubs for various stakeholders.
- d) Stakeholder meetings with TSST providers. Working with DfE/NCTL to offer TSST Core Maths courses.
- e) NCETM: TSST National Conference.
- f) Education and Training Foundation (ETF) engagement regarding training courses for FE.
- g) National Maths Hubs Forum member of National Coordination Team (NCT) for level 3.
- h) Strategic Board member of Maths Hubs: BBO (Chair), NW1, Solent, Surrey Plus, London Thames working to support the MHLs and Level 3 Leads at these Hubs, and with three SE Maths Hubs Level 3 Leads and the SE Coordinator.
- i) Presentations at National Conferences and Workshops on Core Maths and Post-16 Maths to delegates from schools and colleges, and secondary education middle and senior leaders (70+ events) including: WEF, RSS, CETL-MSOR, Keynote, UCAS, Policy UK, ACSL, AoC, Understanding ModernGov, Leaders in Mathematics Education (LLME), Telegraph Festival of Education, ASFC, Inside Government, Westminster Briefing, STEM Learning, NANAMIC, Capita, many Maths Hubs events for: BBO, Solent, Surrey Plus, GLOW; Successful Selective Girls' Schools Conference, MMSA, IMA, Wessex Colleges, Secondary Heads Associations – Bucks, Reading;, BBO Heads Conference.
- j) Representing HE and speaking at Core Maths Leads Conferences and Regional Workshops many.

- k) DfE Workshops in London and Manchester on the Post 16 Review with Professor Sir Adrian Smith, the Post 16 Review Team, and various stakeholders.
- I) Working with the schools and colleges on Case Studies for input to Post 16 Review Team.
- m) Meetings with British Academy staff and Royal Geographical Society Director and lead for schools/colleges.
- n) Dame Alison Peacock, Chief Executive, Chartered College of Teaching.
- career Matters article (with Deirdre Hughes): 'Core Maths for Work, Study and Life'. Careers advisers as the principle audience. (A few other relevant publications can be found here: <u>http://centaur.reading.ac.uk/view/creators/90000233.html.</u>)
- p) Strategic Board member for Nuffield-funded project: 'The early take-up of Core Maths'.
- q) As Chair of The Joint Mathematical Council of the UK (JMC), comprising 34 national mathematics and mathematics education organisations, working with the sector in improving awareness and increasing participation at level 3.
- r) Member of The Royal Society's Mathematics Education Committee (Advisory Committee on Mathematics Education ACME), working with schools, colleges, universities, employers, on the Smith review recommendations.

Working within and across both sectors I believe I have a good understanding of the issues and opportunities in each. I am able to represent Post 16 Maths to each sector, taking into account the views of the other sector, and represent these views to each other where it is productive to do so. I can act as an ambassador for Post 16 Maths, and as a 'broker' bringing the two sectors closer together, or at least that's the mission.

## Paul Glaister

02/11/2018

## Appendix – some references (full details available here:

http://centaur.reading.ac.uk/view/creators/90000233.html)

Glaister, P. and Baldwin, C. (2018) Core maths - a call to action. Mathematics Today.

Glaister, P. and Baldwin, C. (2018) Exploring the new A levels in mathematics - one year on. Mathematics Today.

Glaister, P. and Rycroft-Smith, L. (2017) Pathways, transitions and networks. Mathematics Today.

Glaister, P. (2017) Smith review of post 16 mathematics. Mathematics Today.

Glaister, P. (2017) AS and A levels in Mathematics and Further Mathematics are changing - are you ready? MSOR Connections.

Glaister, P. (2015) Promoting core maths - background, evidence, plans, opportunities, and challenges. Journal of Core Maths.

Glaister, P., Pope, S., Thomas, P. and Dunning, C., (2015) A Level Mathematics Working Group report on mathematical problem solving, modelling and the use of large data sets in statistics in AS/A Level Mathematics and Further Mathematics. Technical Report. Ofqual.

Glaister, P., (2015) Briefing paper for universities on Core Maths. Core Maths Support Programme.

Craster, R., Dunning, C., Giblin, P., Glaister, P., Heslop, M., Humble, S., Pope, S., Porkess, R., Rogers, A., Walker, L. and Wilson, H., (2014) Report of the ALCAB panel on mathematics and further mathematics. Technical Report. A Level Content Advisory Board.

Glaister, P. (2018) Raising the quality of Level 3 Maths education: funding, increasing uptake and progress so far in implementing the new A-levels. In: The future for Mathematics education post-16, 24 April 2018, London, UK.

Glaister, P. and Blaylock, M. J. (2018) Core Maths: the story thus far and planning for 2018 implementation. In: British Congress of Mathematics Education: BCME9 - Celebrating Mathematics Education, April 6-8, 2018, Warwick.

Glaister, P. (2017) The future of post-16 Mathematics: improving quality and increasing uptake. In: Reforms to Mathematics qualifications: new A-levels and the future of Mathematics provision post-16, 25 Apr 2017, London, UK.

Glaister, P. (2017) The new Mathematics A-levels: implementation and the contribution of other subjects. In: Reforms to Maths qualifications: new A-levels and the future of maths provision post-16, 25 Apr 2017, London, UK.

Glaister, P. (2017) Core Maths - the collaborative teaching and learning experience in the classroom: contextualised and open-ended problem solving. In: IMA/CETL-MSOR Conference - Mathematics Education beyond 16: Pathways and Transitions., 10-12 Jul 2017, Birmingham.

Glaister, P. (2017) Post 16 Mathematics: landscape, policy, reforms, and the Smith Review – a perspective from HE. In: IMA/CETL-MSOR Conference - Mathematics Education beyond 16: Pathways and Transitions., 10-12 Jul 2017, Birmingham.

Glaister, P. (2016) A-Level Mathematics - teaching, increasing uptake and the impact of 'Core Maths'. In: Reforming maths qualifications in England - GCSEs, A-Levels, Core Maths and compulsory courses post-16, 23 May 2016, London, UK.

Glaister, P. (2015) Post-16 mathematics reforms: A-level and core maths. In: CETL-MSOR Conference on Sustaining Excellence in the Teaching & Learning of Maths, Stats and OR., 8-9 September 2015, University of Greenwich, London.

Glaister, P. (2018) Core Maths – the most important initiative in post 16 mathematics education in a generation? Institute of Mathematics and its Applications.

Glaister, P. (2017) Should all students continue studying mathematics to 18? (The 2017 Smith Review). Institute of Mathematics and its Applications.

Glaister, P. (2017) What is Core Maths and why is funding it so important? FE Week.

Glaister, P. (2017) What should the maths component of T-levels look like? FE Week.

Glaister, P. (2017) Did you know that Mathematics and Further Mathematics AS and A levels have changed? Institute of Mathematics and its Applications.

Glaister, P. (2017) Core Maths: the most significant development in post-16 mathematics education in a generation. STEM Learning.

Glaister, P. (2017) Seven questions with... Paul Glaister, mathematics academic. Cambridge Mathematics.

Glaister, P. (2016) Paul Glaister interview. STEM Learning.

Glaister, P. and Hughes, D. (2016) Core maths for work, study and life. Career Development Institute.

Glaister, P. (2016) It's not only maths students who need a solid grasp of statistics. Times Higher Education.