

Impact case study (REF3)

Institution: Sheffield Hallam University		
Unit of Assessment: UOA23 – Education		
Title of case study: Improving Teacher Professional Development by Shaping Policy, Encouraging Investment and Developing Practice		
Period when the underpinning research was undertaken: 2007 – 2020		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s):	Role(s) (e.g. job title):	Period(s) employed by submitting HEI:
Mark Boylan	Professor of Education	2004 - present
Mike Coldwell	Professor of Education	1998 - present
Andrew Hobson	Professor of Education	2011 - 2014
Bronwen Maxwell	Professor of Education	2002 - present
Emily Perry	Professor of Education	2004 - present
Period when the claimed impact occurred: August 2013 - December 2020		
Is this case study continued from a case study submitted in 2014? No		

1. Summary of the impact

Sheffield Hallam University research has improved teacher professional development (PD) in the UK and abroad by **shaping policy, encouraging investment and developing practice**. Research on teacher PD has informed UK government Department for Education **policy** in relation to early career teacher mentoring, professional qualifications in PD leadership and significant **investment** in national PD programmes. It has led to changes in the policies, practices and investment in PD activity of and by the Wellcome Trust, the Institute of Physics, and the Teacher Development Trust - all influential **national educational organisations**. As outcomes of extensive knowledge exchange activity, underpinned by the research, over 300 leaders of teacher PD in England and Ghana have been directly **upskilled**. This has resulted in **practice improvements**, with more than 10,000 teachers receiving enhanced professional development directly linked to Sheffield Hallam PD projects, as well as many more benefitting from the wider investment in teacher PD informed by the research findings.

2. Underpinning research

Boylan, Coldwell, Hobson, Maxwell and Perry have developed a substantial programme of research, through wide-ranging evaluation and theoretical study of PD programmes, initiatives and PD leadership. Since 2007, the programme has encompassed over 50 research projects. External funding has exceeded £4.5 million, with studies funded by: government (e.g. Department for Education (DfE) and its agencies such as the Teacher Development Agency), government-funded bodies (e.g. the National Centre for Excellence in the Teaching of Mathematics), third sector organisations (e.g. Gatsby Foundation) and the private sector (Wipro Ltd - a global technology company headquartered in India).

The research programme has focused on two inter-related areas:

The Positive Influences of Professional Development on Teacher Careers and Retention

Coldwell, Maxwell and colleagues undertook a set of projects [R1-R3], including a major longitudinal study of early career teachers [R1]. They found that PD methods, including mentoring, influence teacher retention and career development. Key findings were:

- 1) Teachers' career aspirations firm up in their early years. Consequently, retention issues arise where new teachers' experience low-quality induction [R1].
- 2) Teacher wellbeing is dependent on a wider range of individual, relational and environmental factors beyond basic psychological needs. This finding was based on secondary analysis of data from R1, another large-scale five-year study, and research on mentoring and coaching [R2].
- 3) Intentions to stay in the profession were higher for teachers who engage in high-quality PD. This was particularly due to improved knowledge and sense of efficacy; while the varying impact of PD on career outcomes was influenced by a combination of personal, organisational and policy context factors [R3].

Improving Capacity for Leadership of Professional Development

Boylan et al identified ways that the leadership of professional development is important to effective PD, including factors that facilitate and develop such leadership. Boylan's review of policy-orientated evaluations identified the importance of PD leadership to the success of national government policy innovations [R4]. Based on analysis of leadership in professional development programmes, and specifically those of the National Centre for the Teaching of Mathematics, the research identified that PD leadership involves being an advocate, mobiliser and champion for PD - to broker and instigate greater access to PD for teachers [R5]. Extending this, Perry and Boylan identified ways that effective PD leadership can be supported through a framework of skills, knowledge and capabilities. This informed research-based programmes to support PD leaders [R6]. Boylan et al reconceptualised analytical models of PD as tools to inform design, implementation and local evaluation of PD - leading to guidance which supports PD leaders in the selection of analytical models for designing, delivering and evaluating PD [R7].

3. References to the research

- R1. Coldwell, M., Maxwell, B., McCaig, C., Davies, J. and Stevens A. (2011). Synthesised Key Findings from all Five Stages of the NQT Quality Improvement Study. http://shura.shu.ac.uk/17507/1/NQT_Final%20report.pdf
- R2. Hobson, A. and Maxwell, B. (2017). Supporting and Inhibiting the Well-being of Early Career Secondary School Teachers: Extending Self-Determination Theory. *British Educational Research Journal*, 43 (1), pp.168-91. <https://doi.org/10.1002/berj.3261>
- R3. Coldwell, M. (2017). Exploring the Influence of Professional Development on Teacher Careers: A Path Model Approach. *Teaching and Teacher Education*, 61, pp.189-98. <https://doi.org/10.1016/j.tate.2016.10.015>
- R4. Boylan, M., Wolstenholme, C., Demack, S., Maxwell, B., Jay, T., Adams, G. and Reaney, S. (2019). Longitudinal Evaluation of the Mathematics Teacher Exchange: China-England - Final Report. DfE. <https://www.gov.uk/government/publications/evaluation-of-the-maths-teacher-exchange-china-and-england>
- R5. Boylan, M. (2018). Enabling Adaptive System Leadership: Teachers Leading Professional Development. *Educational Management Administration & Leadership*, 46 (1), pp.86-106. <https://doi.org/10.1177/1741143216628531>
- R6. Perry, E. and Boylan, M (2017). Developing the Developers: Supporting and Researching the Learning of Professional Development Facilitators. *Professional Development in Education*, 44 (2), pp.254-71. <https://doi.org/10.1080/19415257.2017.1287767>
- R7. Boylan, M., Coldwell, M., Maxwell, B. and Jordan, J. (2017). Rethinking Models of Professional Learning as Tools: A Conceptual Analysis to Inform Research and Practice.

All journal articles referenced were subject to rigorous peer review. **R7** was recognised as best paper of the year by the international editorial board. **R1** and **R4** are reports arising from research commissioned following competitive processes and subject to review by DfE researchers and independent project advisory groups, including academic peers.

4. Details of the impact

The professional development of teachers is key to improving pupils' educational outcomes, by enhancing teaching quality, teacher wellbeing and increasing teacher retention. Sheffield Hallam research improved professional development by shaping national education policy and developing practice.

Shaping National Educational Policy

Through the engagement of Boylan, Coldwell, Maxwell and Perry in the policy arena, such as the DfE's PD expert group [E1, E2], and Twiselton's (Director of Sheffield Institute of Education) membership of a number of major policy development groups, findings from teacher PD research have **influenced national educational policy**, including evidencing the links between PD and teacher retention [R1, R3] and the importance of improving PD leadership [R5, R6]. These findings were **adopted in DfE policy documents** [E3], influencing the development of the DfE's Early Career Framework (ECF) for **all new teachers in England**, and a new professional qualification - the Leading Teacher Development Specialist National Professional Qualification (NPQ). The DfE's Director of Teacher Workforce has confirmed that: *"Sheffield Hallam University's research has helped develop, in current policy, a very clear relationship between retention and early career support and development. This is seen by the clear pathway now being implemented from ITE to ECF to specialist NPQs to senior and executive leadership"* [E1].

The suite of research and evaluation carried out by Boylan and others has influenced DfE funding for PD initiatives. For example, the findings of the Mathematics Teacher Exchange [R4] **"played a significant role in shaping the policy development"** of the DfE's mathematics teacher PD policy [E4]. This included **£41million investment**, part of which funded the establishment of Primary Mastery specialist PD. This programme has trained 800 PD leaders, who are now **supporting teachers in approximately 40% of primary schools in England** [E4].

Wider Influence on Professional Development Policy and Practice

In addition to DfE policy, the research has **shaped national third sector organisations' policy and provision** through funded partnership activity, presentations to advisory and practitioner groups, and support for policy development. Findings from **R5** and **R6** have *"significantly contributed to the research evidence on teachers' professional development in the UK"* and have informed the Wellcome Trust's policy engagement with government including *"dialogue with CPD Policy Leads at the Department for Education, roundtable events with a broad range of subject associations and sector organisations both within and beyond science, presentations at conferences and at an All-Party Parliamentary Group, and discussion with the Minister for School Standards"* [E5].

The research has **influenced policy and PD provision** by the Institute of Physics (IoP), including an online tool, based on **R6**, designed to support PD leaders (coaches) who are responsible for the IoP's PD programme. According to the Teacher Recruitment and Retention Manager, *"[Perry] and colleagues' inputs into IOP's activities have influenced our policies around teacher professional development and the practices we use to support IOP coaches and other professional development leaders who deliver this work"* [E6]. Similarly, the research has influenced the

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Teacher Development Trust's **policy and PD practice**, including a PD programme - Leading Lesson Study - delivered jointly by TDT and SHU, with 70 teachers participating.

The CEO of the Teacher Development Trust confirmed that as a result, "*TDT's policy has moved from a general aim to improve the quality of teacher professional development, to its current greater focus on the importance of the leadership of professional development*" [E2].

Benefits for Professional Development Leaders, Schools and Teachers

During the assessment period, with Perry as Head of Knowledge Exchange, approximately £2,000,000 of external funding was secured to undertake more than 30 PD-focused knowledge exchange projects, often collaboratively, underpinned by the research. Examples include:

- The 2018-20 Wellcome CPD Challenge Champions programme, which was underpinned by R5-7. This two-year programme of support and training was delivered to 60 PD leaders from 40 primary, secondary and special schools. The Professional Development Programme Lead at Wellcome Trust acknowledged that "*the support for CPD leaders was designed through application of Emily Perry and Mark Boylan's research into professional development leadership*" [E5]. The programme led to **improvements in over 1500 teachers' PD**, increasing the average annual amount of PD teachers engaged in from 39 to 52 hours in the first year, representing an additional 19,500 hours of PD. 62% of teachers reported improvements in their knowledge surrounding pedagogy, and 50% that learning from PD had demonstrably **improved their teaching practice** [E7]. One PD leader emphasised how "*the theory behind the approaches to CPD was incredibly useful for identifying next steps and needs of staff*" [E6].
- The Wipro Teacher Fellows and Mentors' programme, funded by Wipro Ltd, was designed through application of **R1-R2** and **R5-R7**. The programme provided PD for early career teachers of STEM subjects, including mentoring by other teachers and a development programme for these mentors. Between 2018-20, 26 teacher mentors participated in PD, supporting 30 early career teachers, leading to **positive impacts on their mentoring and PD leadership practice** within the programme and in their schools. One Wipro Mentors' programme participant reflected that, "*[As a result of] looking at the latest research materials and being presented with the latest research... I have as a consequence drastically reformed our CPD programme for all of our NQTs*" [E8].
- Support for teachers in Ghana to lead science teacher PD, in a programme funded by the Ghanaian Ministry of Education, was informed by findings from **R2** and **R5-R7**. Through co-development and delivery of PD, the new PD leaders **improved their skills, knowledge and capabilities in PD leadership**. Developing a team of local PD leaders, rather than relying on overseas expertise, represented a significant change in the local context with the programme **reaching all 180 senior high schools in the country and enabling 1500 teachers to benefit** from enhanced PD [E9].
- A regional PD programme for 50 PD leaders in the Science Learning Network, funded by STEM Learning Ltd, was developed from the findings of R6 to improve PD leaders' capabilities, knowledge and skills for leading PD. Between 2013-16, these PD leaders **developed and delivered PD for approximately 6000 teachers, with consistently positive impact measures**, such as over 90% positive impact on teachers' knowledge, skills and practice and over 80% positive impact on pupil outcomes [E10].

5. Sources to corroborate the impact

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- E1.** Testimonial from the DfE Director of Teacher Workforce concerning Professor Twiselton's roles for DfE and research informed contribution to the Early Career Framework and the National Professional Qualifications Framework
- E2.** Testimonial concerning SHU's influence in role in DfE PD expert advisory group and influence of SHU research on the Teacher Development Trust, by David Weston Chair of the DfE expert advisory group and CEO of the Teacher Development Trust
- E3.** Submission to DfE policy development and email confirmation of influence on the policy document from DfE CPD lead
- E4.** Email from DfE evaluation manager with Mathematics Teacher Exchange steering group minutes
- E5.** Testimonial from the Professional Development Programme Lead, Education and Learning at Wellcome
- E6.** Testimonial Institute of Physics Teacher Recruitment and Retention Manager
- E7.** CFE Research independent evaluation of Wellcome CPD Challenge Champions
- E8.** *Wipro STEM Teacher Fellows and Mentors' Programme: Project Evaluation Report*
- E9.** *Professional Development in Education Journal* article on Ghana PD programme
- E10.** National Science Learning Network Evaluation Report