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Teacher fabrication as an impediment to professional learning and development: the external mentor antidote

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ABSTRACT

This paper reports findings from a study of the work of ‘external mentors’ associated with three programmes of support for the professional learning and development (PLD) of secondary science teachers in England. Focusing on outcomes from analyses of data derived from interviews with 47 mentees and 19 mentors, the paper supports and extends existing research on the construction and maintenance of fabrications in schools, and identifies omissions in the evidence base relating to teacher PLD. It is argued that the kinds of fabrications revealed by the teachers interviewed for this research present a serious impediment to their opportunities for school-based PLD, and that the deployment of external mentors (i.e. those not based in the same schools as the teachers they support) can provide a potentially powerful antidote to this. A number of implications for policy and practice in teacher professional learning and development are discussed. Amongst these, it is argued that more teachers should have the opportunity to access external support for their PLD, and that policy makers and head teachers should seek to reduce the degree to which teachers’ ‘performance’ is observed, inspected and assessed.

Keywords

Teacher professional learning and development, CPD, fabrication, performativity, external mentors

Introduction

This paper discusses findings from a research study of ‘external mentoring’ associated with three support programmes for teachers of secondary science in England, namely the pilot *Physics Enhancement Programme* (PEP), the pilot *Science Additional Specialism Programme* (SASP), and the *Stimulating Physics Network* (SPN). We use the term external mentoring to refer to that carried out by experienced teachers who are not based in the same schools as the teachers they are supporting, but where the interaction between external mentors and their mentees may take place within and/or outside of mentees’ schools, and may be face-to-face and/or remote. In each of the three programmes under investigation, the mentoring was provided by experienced subject specialist teachers, with the primary aim of developing mentees’ subject knowledge and subject pedagogy.² While PEP, SASP and SPN were each introduced to address issues relating to the chronic shortage of science (particularly physics) teachers in England (Moor *et al.*, 2006; Osborne & Dillon, 2008), and focused on support for non-specialist teachers of physics and chemistry (beginning teachers in the case of PEP and mostly more experienced teachers in the case of SASP and SPN), we argue that the findings of the research have broader applicability. The paper both advances and connects existing literatures on teacher fabrications and teacher professional learning and development (PLD). We contend that a tendency for teachers to construct and maintain fabrications (Ball, 2003), which is exacerbated by the performativity agenda, presents a serious obstacle to their PLD, and that external mentoring provides a potentially powerful antidote to this.

In what follows, we first review research evidence on formalized support for teachers’ PLD, before outlining the paper’s conceptual framework relating to fabrications and performativity, and the

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² The official role titles of those undertaking this work, to whom we collectively refer as ‘external mentors’, were ‘Regional Mentors’ (for the PEP), ‘Regional Advisors’ (SASP) and ‘Teaching and Learning Coaches’ (SPN), respectively.

research design of the study on which the paper is based. We then go on to present and discuss our research findings and some of their implications.

Context: support for teachers' professional learning and development

Studies carried out in a range of educational systems and contexts have identified a number of *common features or characteristics* of effective provision for teachers' continuing professional development (CPD).³ While individual programmes and projects are unlikely to embody all of these, the following characteristics of effective CPD have been widely acclaimed:

- (1) it is rooted in, or has clear applicability to, school and classroom settings (Kwakman, 2003; Cordingley *et al.*, 2005);
- (2) it encourages critical reflection upon and enquiry about practice (Pedder *et al.*, 2005; Bolam & Weindling 2006);
- (3) it engages teachers in collaborative working and learning activities (Day *et al.*, 2007; Webb *et al.*, 2009);
- (4) it is individualised in the sense that it both meets teachers' PLD needs and takes into account their prior knowledge, experience and beliefs (Hustler *et al.*, 2003; Day & Gu, 2007);
- (5) it acknowledges and addresses, as appropriate, the emotional and affective side of teacher development (McNally 2006; Day *et al.*, 2007);
- (6) it provides opportunities for teachers to develop their subject content knowledge and subject pedagogy (Leaton Gray, 2005; Luft, 2007); and
- (7) it is not a series of disconnected one-off experiences, but is sustained over a period of time, providing opportunities for follow-up activities and support, and consolidation of learning (Hargreaves, 2003; Cordingley *et al.*, 2005).

The extent to which teachers are likely to benefit from any available means of seeking to support their PLD is influenced by a number of *facilitating or inhibiting factors*. These include: the degree of autonomy teachers have in selecting the CPD activities they engage with (Sandholtz, 2002; Kwakman, 2003); the allocation by schools of sufficient resource to CPD provision, and the extent to which teachers have (or can create) sufficient time to properly engage with CPD opportunities (Bubb *et al.*, 2009; Earley, 2010); the expertise of those facilitating CPD activities (Cordingley *et al.*, 2005), including, for example, their ability to effectively model the teaching strategies they are promoting (Opfer & Pedder, 2010); the nature and quality of interpersonal relationships, including the degree of trust, between those engaging in CPD activities (Kennedy, 2005; McIntyre *et al.*, 2009); the extent to which the schools of participating teachers are characterised by collegial and learning cultures (Kwakman, 2003; Bubb *et al.*, 2009); and the individual characteristics and dispositions of the teachers themselves, such as their commitment to their PLD (Day & Gu, 2007), and their openness to change and preparedness to operate outside of their comfort zone (Veenman *et al.*, 2001).

Two additional themes, which are not given widespread attention in the literature on factors promoting or impeding teachers' PLD, and on which the research evidence is presently inconclusive, are of particular relevance to this paper. First, some studies suggest that CPD has more impact where it is closely linked to a school's performance management or appraisal process, primarily – it is argued – because this helps to ensure that the provision of CPD opportunities is appropriate to teachers' PLD needs (Leaton Gray, 2005; Pedder & Opfer, 2010). Secondly, the current orthodoxy in England and a number of other countries favours school-based CPD provision, and this is reflected in the popularity of two powerful means of enhancing PLD, namely school-based mentoring and

³ For the purposes of this paper we use the term CPD, as it has been used by many of the authors of the literature reviewed here, to refer to formal or planned attempts to bring about teachers' professional learning and development. We nonetheless regard the term as unsatisfactory since as Earley (2010) suggests, professional learning or 'continuing professional development' in the sense of meaningful advances in teachers' knowledge or expertise may or may not result from activities designed to bring it about. We should also note that many opportunities for PLD are informal, unplanned and *ad hoc*, but that an explicit focus on these is beyond the scope of the present paper.

coaching (CUREE, 2008; Tomlinson *et al.*, 2010)⁴ and action research and practitioner inquiry (Day, 1999; Hemsley-Brown & Sharp, 2003). Yet some research suggests that teachers also benefit from external support for their professional development, both in conjunction with school-based CPD, as in the deployment of university academics to support teachers in the conduct of practitioner inquiry and action research (Sharp *et al.*, 2005), and in its own right, as through membership of external teacher networks (CUREE, 2008). Related to this, it has been argued that wholly school-based CPD can lead to parochialism (Day, 1999). More specifically, however, there is no body of research evidence relating to the impact of external *mentoring* (formal programmes of which have been few and far between) on teachers' PLD, and we are not aware of any literature calling for its widespread introduction as a potentially effective means of supporting teachers' PLD.

While – with the exception of the two 'additional themes' discussed immediately above – international research has fairly consistently highlighted the general characteristics of effective CPD, these are not adequately reflected in much CPD practice, the impact of which tends to be highly variable in England and many (perhaps most) other countries. Critics of this state of affairs point in particular to the following impediments to effective CPD:

- (1) resourcing by schools and/or government is insufficient (Leaton Gray, 2005; Bubb *et al.*, 2009);
- (2) teachers have insufficient time and space to take up or properly engage with opportunities for PLD, often because of heavy workloads (Bubb *et al.*, 2009; Webb *et al.*, 2009);
- (3) much CPD activity is decontextualised, involves the provision of information through passive means such as lectures, and/or lacks applicability to classroom practice (Leaton Gray, 2005; Opfer & Pedder, 2010);
- (4) much CPD provision is not sufficiently tailored to individual teachers' needs, often focused instead on whole school initiatives and concerns (Hustler *et al.*, 2003), which are frequently linked to government objectives and priorities (Webb *et al.*, 2009);
- (5) teachers have insufficient opportunity to access CPD designed to enhance their subject content knowledge and subject pedagogy (MacBeath & Galton, 2004; Luft, 2007).

These problems, and the last one in particular, are compounded where teachers do not have access to a subject-specialist within their school, and this is especially the case in this country with regard to shortage subjects such as physics, chemistry and mathematics. Such considerations were the main drivers behind the introduction of the PEP, SASP and SPN programmes, and of the external mentor roles associated with these.⁵

In our research, we were interested to explore both the impact of the work of external mentors associated with the PEP, SASP and SPN programmes, and the possible broader applicability of external mentoring, notably its potential for enhancing the PLD of teachers of other subjects and of primary and well as secondary teachers. While broad findings are provided in our research report (Hobson *et al.*, 2012), in this paper we focus on what we consider to be one of the most striking findings. This relates, firstly and somewhat depressingly, to evidence revealing a major impediment to teachers' PLD that appears to have been both seriously neglected in the literature and overlooked by policy-makers, but secondly and more encouragingly, to evidence demonstrating the potential of external mentoring for overcoming or compensating for this serious impediment. We situate our presentation of these findings within the literature on fabrication and performativity, to which we now turn.

⁴ In contrast to external mentoring, we take school-based mentoring to refer to that which is undertaken by a mentor (usually but not always a more experienced or 'senior' teacher) who is employed by and based in the same school as the mentee, and which normally takes place within that school. We see coaching as one of a number of potential roles that mentors can play (Malderez & Bodoczky, 1999), and one which relates to attempts to support an individual's development of one or more job-specific skills or capabilities (Hopkins-Thompson, 2000).

⁵ For further information about PEP and SASP, see Shepherd (2008); for SPN, see Jenkinson *et al.* (2011).

Conceptual framework: fabrications and performativity

This paper draws upon, supports and extends earlier work relating to the production and maintenance of fabrications in schools. Fabrications are considered to be ‘misrepresentations’ or ‘versions of an organization (or person) which do not exist’ (Ball, 2003, p. 224). It is clear that forms of workplace fabrication by other names long preceded the relatively recent expansion and intensification of ‘performativity’ cultures characterized by surveillance, control and the monitoring of employee effectiveness and efficiency (Deem, 1998; Ball, 2003). Nonetheless, a range of research evidence suggests that the tendency to construct fabrications in schools and other institutions has been encouraged or exacerbated by the considerable expansion of performativity and surveillance regimes, which have ‘increasingly come to dominate and shape the nature of policy-making, current definitions of ‘professionalism’ and the psyches and activities of teachers’ (Mahony *et al.*, 2004, p. 438) in many education systems of modern democracies in the late 20th and early 21st Centuries. In surveillance cultures there is a heightened concern to be ‘seen to be good/doing good’ (Blackmore, 2004, p. 454) amongst teachers and others, where a perceived failure to perform ‘may be punished by disapproval’ and/or a lack of access to promotion or ‘resources’ (Lumby, 2009, pp. 354-355). Perryman (2009) thus found that in a context in which schools must ‘put on their best show’ because ‘if they reveal their weaknesses too honestly they may face more punitive inspection regimes’ (p. 628), school leaders and other staff have learned to ‘perform the good school’ and ‘become adept in disguising the real problems and issues which face the school’ (p. 629). Ball (2003) concludes that in the performative society, fabrications are now a ‘part of day-to-day social relations and practices’ in schools (p. 226).

Drawing on Lyotard’s ‘law of contradiction’ (1979), Ball (1997) draws attention to the paradoxical situation whereby ‘increasing precision in the specification, collection and collation of indicators of performance requires greater and greater time which must be diverted away from the activities the indicators are supposed to represent’ (p. 332). Performativity and its tendency to encourage the production of fabrications may have had other deleterious effects on the very things it is designed to positively impact. Perryman (2009) noted, for example, that hiding from inspectors the ‘real problems and issues’ that schools face can result in these issues not getting ‘the attention and support they require’ (p. 629). It has also been found that performativity can have a detrimental impact on workplace cultures, provoking anxiety, fear, mistrust and increased competition amongst and between colleagues at the expense of positive interpersonal relationships, trust and collegiality (Jeffrey, 2002; Blackmore, 2004; Lumby, 2009; Keddie *et al.*, 2011). Healthy interpersonal relationships, trust and collegiality were each highlighted in the previous section as important facilitating factors in relation to teachers’ professional learning and development. We return to these considerations later in this paper.

Research design and methods

The research upon which this paper is based employed a *sequential mixed method design* (Tashakkori & Teddlie, 1998), by which the research team sought: (i) to explore existing knowledge of the mentoring components of the programmes under investigation (scoping phase, early/mid 2010); (ii) to produce detailed insights into the lived experiences of participants who had access to or were providing external mentor support (‘qualitative phase’, 2010-11); and (iii) to examine the extent to which some of the emergent findings from the qualitative work were also evident in relation to a national sample of primary and secondary teachers of all subjects (‘quantitative’ phase, autumn 2011).⁶ All data were generated and stored, and findings are reported, in accordance with the ethical guidelines of the British Educational Research Association (BERA, 2004; BERA, 2011).

This paper draws mostly on the analyses of data generated as part of the qualitative phase of the research, specifically those produced from part-structured interviews (Hobson & Townsend, 2010) conducted with external mentors and mentees associated with the PEP, SASP and SPN programmes,

⁶ We use inverted commas here to acknowledge that the distinctions between qualitative and quantitative research, methods and data are somewhat simplistic and exaggerated, as Hammersley (1996) and others have shown.

on which we now focus our attention. (For further information about the methods of data generation, sampling and data analysis employed for the project as a whole, see Hobson *et al.*, 2012).

The interviews with mentors and mentees were designed to explore participants' lived experience of external mentoring, including their perceptions of its nature and impact, of perceived differences between school-based and external mentoring where appropriate⁷, and of factors influencing the take-up of external mentor support. The sampling strategy and means of seeking access to suitable interviewees varied across the programmes under investigation and according to the information available to the research team. Given the relatively small total number of PEP and SASP *mentors* nationally (7 and 8, respectively), all of these were invited to participate in the interviews, together with a stratified sample (by region) of 12 of the 23 SPN mentors who were working across England at the time of the fieldwork. We also invited a stratified sample (again by region) of all teacher *mentees* who had given permission to be contacted by email, a total of 155 PEP mentees and 90 SASP mentees, while (since we had no direct means of identifying SPN mentees) those SPN mentors who agreed to participate in our research were also asked if they would invite the teachers they were supporting to contact the research team if they were willing to participate in the study.

As a result of the recruitment efforts outlined above, interviews were conducted with 19 external mentors and 47 mentees. The breakdown by programme is shown in Table 1, below. With the exception of two SASP chemistry mentors and two SASP participants being supported by chemistry mentors, all interviewees were supporting or being supported for the teaching of physics. Where possible, and in the majority of cases, interviews were conducted on a face-to-face basis. Where this did not prove possible, participants were interviewed via telephone (7 cases) or else gave written responses to the 'interview' questions via email (2 cases).

Table 1 Interviews conducted

	PEP	SASP	SPN	Total
External mentors	5	6	8	19
Mentees	19	9	19	47
Total				66

All interview data were transcribed and an initial, inductive analysis (Braun & Clarke, 2006) of eight mentor and 12 mentee transcripts was undertaken independently by each of the present authors. The outcomes of these analyses were then shared and informed the development of a coding frame for the subsequent thematic analysis of all transcripts, using MAXQDA qualitative data analysis software. During the coding process, the coding frame was adapted slightly to take account of additional themes which had not emerged during the inductive analysis but which were considered important. It is important to state, however, that the particular focus of this paper, that relating to teacher fabrications, emerged strongly from the initial inductive analysis process. In the presentation of findings below, we give prominence to teachers' voices, which are at times marginalized in education discourse (Lingard, 1995; Mahony *et al.*, 2004).

Findings

Before presenting our findings relating to teacher fabrications and the role of the external mentor (EM) in compensating for these and their potentially damaging effects, we first provide some background information and summarise the kinds of support that external mentors were found to provide.

⁷ As beginning teachers, all PEP mentees had school-based mentors for much of the time that they had access to an external mentor. As mostly more experienced teachers, the majority of SASP and SPN mentees did not. State/'maintained' schools in England are required to provide mentors for student teachers and newly qualified teachers (NQTs), but there is no obligation for them to do so once teachers have completed their NQT Induction, which is typically at the end of their first year in post. As a result, whilst around a third of second year teachers reported in a recent survey that they had a school-based mentor (Hobson & Ashby, 2012), only a small minority of teachers do so after this point.

External mentor support: an overview

The PEP, SASP and SPN mentors were all experienced teachers of science, most of them still employed as teachers, while some were recently retired or combining their EM roles with other teacher development or consultancy work. Many of the EMs were or had been heads of department in schools, and some had worked on university-administered initial teacher preparation programmes.

Across the PEP, SASP and SPN programmes, we estimate that approximately half of the teachers eligible for EM support actually took up the opportunity to a meaningful degree.⁸ Amongst those who did (including the vast majority of our interviewees), interaction between mentees and mentors normally occurred somewhere between once a week and once a term. The nature of EM support and the types and frequency of contact between EMs and mentees varied to some extent both across and within the different programmes, dependent upon a number of considerations including the career stage and needs of individual mentees, as well as the specific job descriptions and briefs provided for PEP, SASP and SPN mentors respectively. Across all three programmes, the most common forms of contact between EMs and mentees took place on a face-to-face basis and via e-mail, though some also communicated via telephone (including text messaging) and/or social networking sites such as Facebook. Face-to-face contact included both one-to-one and group meetings, with the latter including formal occasions such as school-based workshops offered to whole departments (a particular feature of the work of SPN mentors), and more informal get-togethers such as evening meals or visits (more common amongst PEP mentors).

While as noted earlier the main aims of the PEP, SASP and SPN were to enhance teachers' subject content knowledge and subject pedagogical knowledge (Shulman, 1986), in practice EMs sought to meet a number of additional PLD needs, particularly PEP mentors, whose mentees were all beginning and early career teachers. These included support for mentees' general pedagogical knowledge, emotional wellbeing and career progression, and measures designed to increase their resilience and confidence as teachers of physics or chemistry. In providing such support EMs deployed a number of specific strategies, including modelling teaching and practical work, assistance with lesson planning and developing schemes of work, explaining subject content and helping mentees to use specialist equipment, providing or facilitating access to teaching resources, and (in a minority of cases) observing and having follow-up discussions about mentees' teaching. EMs also acted as confidantes and provided 'a shoulder to cry on', and they sought to cultivate a peer network amongst mentees, as well as encourage them to engage with the broader science community, for example through involvement with the Association for Science Education.⁹ It is important to note that PEP, SASP and SPN external mentors worked in a purely supportive capacity and had no formal assessment role in relation to their mentees.

Fabrication as concealment of perceived shortcomings

One of the most consistent messages to emerge from the analyses of our interview data was a concern amongst teachers to prevent significant others¹⁰ in or associated with their schools from becoming aware of what they felt were inadequacies in their professional practice. This resulted in two main forms of teacher fabrication. The first and more common form of fabrication evidenced in our data, which we term *fabrication as strategic silence*, was teachers' reluctance or inability to raise or discuss freely with school-based mentors, line managers or colleagues specific difficulties they were encountering in their practice, or other matters which they feared might draw attention to their

⁸ We explore the factors influencing take-up and non-take up of external mentoring in some detail elsewhere (Hobson *et al.*, 2012). Some of the reasons given for non-take up included: teacher workload and associated time constraints; satisfaction with school-based support; and school gatekeepers not facilitating contact between teachers and external mentors.

⁹ The Association for Science Education (ASE) is the UK professional association for teachers of science, its primary aim to promote excellence in science teaching and learning.

¹⁰ We use the term 'significant other' (Sullivan, 1953) to refer to those people who individuals perceive to have importance and influence in relation to their self concept and/or wellbeing.

perceived shortcomings as teachers. Around half of those we interviewed explicitly stated that they could not be honest with colleagues about such matters, while all the external mentors we interviewed said they felt this was the case for at least some of their mentees.¹¹ As one teacher put it:

No one wants to expose their weakness... I can openly admit when I started at this school that I wouldn't go to anyone [for help]. (SPN mentee)

Perhaps echoing Mahony *et al.*'s (2004) suggestion that matters pertaining to performativity had come to dominate teachers' psyches and conceptions of professionalism, another teacher commented that in his interactions with his NQT Induction mentor in school there was '*always a front to put on, this professionalism*' (PEP mentee).

The second form of fabrication we identified, which we term *fabrication as strategic avoidance*, involved the avoidance by teachers of forms of behaviour and interaction which they feared might draw attention to or lead significant others to identify any chinks in their armour, such as gaps in their subject knowledge. Examples of this form of fabrication included teachers: (i) discouraging mentors or line managers from observing them teach classes they found it difficult to manage; (ii) ignoring or failing to report problematic pupil behaviour; and (iii) as one participant put it, deliberately '*putting subject knowledge to the back*' (SPN mentee), by which they meant focusing in their planning and teaching on aspects of the curriculum about which they felt confident, in order to avoid being asked awkward questions which might reveal gaps in their knowledge. It is clear that in at least some cases, teachers sought to conceal perceived gaps in their knowledge or understanding not only from school-based mentors, line managers and colleagues, but also from pupils:

In terms of planning, the kids will ask you a question, something about physics and you're hoping no one will ask you... And in chemistry I would be like 'ask anything' because I know I can answer it but in physics... [that wasn't the case] (SPN mentee)

Causes and consequences of fabrication as strategic silence and strategic avoidance

Essentially, for us, the kinds of fabrication our analyses highlight – if not all kinds – are forms of impression management (Goffman, 1959), conscious or unconscious attempts to influence others' perceptions of individuals, objects or events through regulating and controlling information in social interaction. In this case, teachers are consciously or unconsciously attempting to manage significant others' perceptions of themselves, or more specifically of their knowledge and expertise as teachers. As one of our participants succinctly put it:

I have to give the impression I know what I'm talking about... (PEP mentee)

At one level, like many forms of impression management, teachers' apparent need to manage others' impressions of their capability relates to the desire of individuals to encourage others to view them in a positive light and/or to discourage or prevent others from viewing them in a negative light (Schlenker 1980). Our analyses suggest that the latter may offer a significant explanation for the construction and maintenance of fabrications by the teachers in this study. All of this is likely to be influenced by a substantial number of psychological and sociological considerations to which we cannot attempt to do justice in this paper. However, our evidence suggests that what Hargreaves (1980) termed 'fundamental competence anxiety' – the anxiety teachers can feel about appearing incompetent to their colleagues and themselves – was a key consideration, along with (in varying degrees) related constructs of insecurity, embarrassment and shame associated with the fear of being judged and of other potential repercussions of being 'found out' as less than perfect teachers. As the following comments from four different teachers suggest, these factors were often closely intertwined:

¹¹ Here and elsewhere, where frequencies are provided they are indicative and should not be taken to represent the precise number or proportion of interviewees who stated or held a particular viewpoint. In this instance, not all teachers who were interviewed gave clear indications of the degree to which they could be open with school-based colleagues about their perceived limitations as teachers.

[If] you go to someone [within the school, for help] there is a part of you that feels ‘if I go to this person to say I don’t know this, what would it look like in terms of them thinking why does this person not know this basic thing?’ ... I couldn’t go to the former head of department because they’ll feel I know nothing about physics. I’ll just keep my ... questions to myself. (SPN mentee)

It’s quite a personal thing, you are effectively saying ‘I’ve got to this stage in teaching but I still don’t really understand this’, which is really opening yourself up to criticism. (SASP mentee)

The ... people ... at school, people who are in some way involved in school... you can’t necessarily talk to them about certain things ... about the stresses ...because it might cause problems. (PEP mentee)

You don’t want [school-based colleagues] to think ill of me... you are so scared, you’re trying to establish yourself... you don’t know people and how they might judge you and you’re scared of how people may judge you. (SPN mentee)

Our evidence suggests that teachers’ anxieties and fears, and the associated tendency to construct and maintain fabrications, are fuelled by the current emphasis on assessment and accountability, and that their ability to develop open trusting relationships with line managers and mentors in particular is constrained by current frameworks requiring these to evaluate their ‘performance’ (and in beginner teachers’ cases to act as gatekeepers to the profession) as well as support their PLD:

My [school-based] mentor... you’re thinking ‘this person is going to assess you’ every day... So the rapport is not there really. (PEP mentee)

[W]hatever you ask your [school based] mentor they would judge you on and [think] ‘why doesn’t she know that?’ ... I wouldn’t be speaking to [them] about flaws that I have. (PEP mentee)

It is important to acknowledge that not all of the teachers we spoke to indicated that they engaged in the production and maintenance of fabrications, and five of the 47 mentees we interviewed – including the interviewee quoted below – explicitly stated that they were able to talk about their perceived weaknesses with line managers, mentors or other colleagues in their schools:

Our head of department is the sort of person you can approach, although he is busy... [He] knew I wasn’t very confident [in teaching physics] which is why he came to me with the offer of going on the [SASP] course in the first place. (SASP mentee)

This finding is consistent with recent studies (e.g. Childs & McNicholl, 2011) highlighting the existence of collegial departments which foster effective teacher learning environments *despite* the broader performativity culture within which they are situated. Nonetheless other research (e.g. de Lima, 2003) has drawn attention to the absence of a collegial learning culture in schools, and in the present study substantially more teachers indicated that they sought to conceal their perceived shortcomings from school-based colleagues than those who stated that they were able to reveal these openly. It seems likely that engaging in such fabrications (for those who do) will stunt their PLD. Just as Perryman (2009) noted that preventing school inspectors from becoming aware of a school’s weak points can result in these not receiving the attention and support they require, school-based mentors and line managers are likely to be less able to help teachers overcome their professional limitations if they are incognizant of these. Some teachers appeared acutely aware of and frustrated by the dilemma that they faced, which is neatly captured in the following excerpt from an interview with a PEP mentee:

You don't want to look like you don't know what you're talking about but you also want help.
(PEP mentee)

External mentor as antidote

Our analyses suggest that, for teachers participating in this research, access to a PEP, SASP or SPN external mentor helped both to compensate for the negative effects of fabrication as strategic silence, and to reduce the incidence of fabrication as strategic avoidance. Every participant who indicated that they engaged in the construction and maintenance of fabrications as strategic silence stated that they were able to be more open and honest about their perceived limitations with their EM than they were with their school-based mentors and line managers. This can be explained by a number of factors, some of which directly relate to and contrast with the causes of teacher fabrication discussed above, most notably external mentors' independence from mentees' schools and lack of involvement in their assessment or appraisal, as well as mentors' personal attributes, especially their perceived trustworthiness and non-judgmental nature, and the promise of confidentiality.

[J]ust the fact that [EM] wasn't in my school was brilliant, so if school issues would occur, so if I said to my head of department I didn't know how to do this, I didn't want him to think I was an idiot. But with [EM] he wouldn't think that at all, [he was] kind of outside the loop... I could be completely open and honest. (SASP mentee)

I know that anything that I say [to EM] is confidential... (PEP mentee)

You know [EMs] aren't going to be judging or gossiping about you. (SPN mentee)

Some of the SPN mentors we spoke to commented that mentees tended to be more open about their perceived shortcomings in one-to-one meetings than in group meetings or workshops at which their colleagues were present:

[Teachers]...are not so open and honest in large groups... but they are in the subsequent one-to-one meetings once they realise I am not there to judge them. For example, a head of department in a secondary school said they didn't understand the teaching of electronics, [saying] 'I've got no idea and I'm completely reliant on the textbook'. They wouldn't have said this to me in my [Local Authority] advisor role as they think I'm there to make a judgement.
(SPN mentor)

While (as quotations above suggest) a number of teachers went so far as to suggest that they could be 'completely open and honest' with their EM, others indicated that they were somewhat more cautious:

I felt more comfortable opening up to [EM] about gaps in my knowledge than I thought I would... [but] I'm always very aware that my physics knowledge isn't perhaps as good as it could be... [and] you don't want to leave yourself open do you? Never leave yourself open to [someone] thinking I'm stupid. (SPN mentee)

Nonetheless, the finding that most teachers were more willing and able to talk about their perceived weaknesses and professional development needs with their EM than with school-based colleagues suggests that the EM was better able to help them to address those needs, either directly or by facilitating access to others, for example through peer networking. This is supported by our analysis revealing that 42 of the 47 teachers interviewed explicitly stated that the external mentoring had a beneficial impact on their professional practice, with only four participants unsure and one considering that the support had little or no impact.¹² Those teachers who indicated that they had profited from EM support identified a number of positive benefits. For themselves these included

¹² The five less positive responses here can be largely attributed to these teachers feeling that the support of an EM was superfluous, since they were able to be open about their PLD needs and to access sources of appropriate support within their schools.

improved subject knowledge, greater familiarity with and ability to use technical equipment, more practical work and a corresponding reduced reliance on textbooks in their teaching, increased confidence, and less anxiety and stress; and for their pupils, more accessible and enjoyable lessons, and enhanced understanding and learning. These and other reported benefits of external mentoring are elaborated more fully elsewhere (Hobson *et al.*, 2012). The significant point to report in the context of this paper is that the reported positive impacts on mentees, and their increased confidence in their subject knowledge and subject pedagogy in particular, had the effect of reducing the incidence of fabrication as strategic avoidance, as illustrated by the following statement:

Because of the increase in confidence [as a result of working with the EM], the knock on effect is that you don't feel as daunted by [teaching physics]... When I think about delivering some of the topics, some of the fear has gone... we don't feel frightened to do the practical [any more]. It's not that we feel frightened it's... 'how are you going to answer the question that particular thing throws up?' [Without the support of the EM] I'd still be putting the physics to the back. (SPN mentee)

Conclusions: relaxing and compensating for the constraints of performativity

The findings reported in this paper have a number of important implications for policy and practice relating to teachers' professional learning and development, not just in the UK but also in other educational systems in which teachers are subject to high levels of accountability and surveillance – a significant and growing number worldwide. Before addressing these, however, we wish to acknowledge some of the limitations of the research upon which they are based. First, we should retain some degree of caution about taking research participants' accounts at face value. For example, similar motivations to those which contribute to the production of fabrications in schools, notably those associated with impression management and presentation of self, are also likely to cause some teachers to be economical with their truths in their encounters with education researchers. Nonetheless, that many teachers in the present study were willing to indicate that they are not always honest with their colleagues in school suggests a certain degree of openness with members of the research team.

Secondly, we would not wish to claim that our findings, based on analyses of interview data from teachers and EMs associated with three programmes of support for non-specialist teachers of secondary science in England, are representative of the broader population of teachers in or beyond this country. We should also note here that most of our teacher interviews were conducted with those who had taken up the offer of EM support: it is likely that those who did not were more satisfied with school-based support for their PLD and perhaps less likely to engage in the construction of fabrications. Nevertheless, there is wider support for our core findings on teacher fabrications in the detail of some previous studies conducted in the UK and elsewhere. For example, Edwards (1998) in England and Feiman-Nemser *et al.* (1999) in the US have reported evidence of some beginner teachers being predominantly concerned, in their interactions with school-based mentors, with presenting an appearance of competent performance, while Keddie *et al.* (2011) quote a Year 6 teacher in Australia who stated that:

*'A lot of people feel pressured in the school, as teachers, a lot of people would, **if they talked to you without anyone else hearing they would say to you that it's very demanding...**' (p. 83; emphasis added).*

Likewise, a (non-science) secondary teacher interviewed for the 'Becoming a Teacher' research admitted that:

*[Y]ou never want to mention any potential failings that you might have to your [school-based] mentor or your line manager... because you don't know what's going to go down in writing... I have got the acting down to a fine art... Don't let it show to anybody at all; let nobody know. (Hobson *et al.*, 2009: p. 223)*

In addition, our findings relating to the potential benefits of external mentoring are supported by those from the ‘quantitative’ strand of the present study: approximately half (49%) of both primary and secondary teachers who responded to the national teacher survey (n=1558) indicated that they would value the support of an EM for one or more of the subjects they teach, while secondary teachers of physics (and non-specialist teachers of physics and other subjects) were no more likely than other teachers to give this response (Hobson *et al.*, 2012).

Despite its limitations, the present study supports and develops existing literature both on teachers’ PLD and on teacher fabrication and performativity, whilst (importantly) identifying a significant connection between these literatures and the phenomena they describe. In relation to the performativity and fabrication literature, our research supports previous studies suggesting that subjecting teachers’ work to high levels of scrutiny causes anxiety, works against collegiality and leads them to construct and maintain fabrications (Ball, 1997; Jeffrey, 2002; Lumby, 2009; Keddie *et al.*, 2011). Our findings extend this body of work by providing evidence of the existence – and of some of the causes and consequences of, as well as potential means of compensating for – two distinct types of fabrication in which teachers engage, which we have termed fabrication as strategic silence and fabrication as strategic avoidance.

In relation to the literature on teachers’ PLD, our research lends support to those (e.g. Leaton Gray, 2005; Luft, 2007) who have championed the value of subject-specific CPD. It also provides backing for what might be termed the ‘minority literature’ (e.g. Day, 1999) on the potential benefits of external support for teachers, and extends this by drawing attention to the powerful impact of external mentoring in particular, about which little has been written and little empirical research exists. In addition, our findings support – and are to some extent explained by – earlier work on the importance of relational trust in professional learning. As Bryk and Schneider (2003) argue, ‘[t]alking honestly with colleagues about what’s working and what’s not means exposing your own ignorance and making yourself vulnerable’ (p. 43), and teachers are unlikely to make themselves vulnerable to their colleagues in the absence of strong relational trust. In connection with this, we suggest that most literature on factors which foster or impede PLD neglects a vitally important consideration in teachers’ willingness or ability to openly discuss their professional development needs.

As regards connections between the fabrication, performativity and ‘CPD’ literatures, we contend that the kinds of teacher fabrications identified in this paper restrict the PLD of those who engage in their construction and maintenance. Our findings show that when teachers were able to discuss with external mentors perceived limitations in their practice which they had previously hidden from school-based colleagues, such as gaps in their subject knowledge, their EM was able to help them address these issues and to advance their PLD. Given our additional findings which support those of others in implicating the performativity agenda in the production of fabrications, Ball’s (1997) account of the ‘law of contradiction’, referred to earlier, may be extended. It is not merely (as Ball suggests) that performativity results in time and resources being taken away from the activities the performance indicators are designed to assess. Perhaps more seriously, the anxieties and lack of trust that performativity regimes engender result, through the production of fabrications, in teachers being less able to access the kinds of CPD support that might increase their professional effectiveness – the very thing that is being inspected and assessed. In light of our findings, teachers’ production and maintenance of fabrications, which impede their PLD by concealing their development needs, are notable by their absence from Day and Gu’s (2007) account of the ‘five consequences’ of performativity (pp. 424-425): this may be interpreted as an oversight on the part of these authors, or as indicative of the invidious increase in accountability and surveillance measures in schools in England since their study.

Implications for policy and practice

Whilst both recognizing the existence and importance of implicit learning from practice (Tomlinson, 1999a, 1999b), and acknowledging that teachers’ perceptions of the limitations of their practice may not always be accurate, we contend – and the findings of the present study support the contention –

that, other things being equal, the PLD of teachers will be more likely to come about if they are willing and able to acknowledge their perceived limitations and professional development needs to one or more school-based colleagues who may be able to help them to address these, or to facilitate access to someone or something that can. We thus regard it as imperative that policy makers and school leaders make concerted efforts to facilitate and encourage the creation of a climate within which teachers are more willing and able to ‘make themselves vulnerable’, a climate within which teachers feel both that they are trusted by and are able to trust their colleagues, mentors, line managers and leaders. In our view, the single most effective means of working towards this goal would see policy makers and school leaders substantially ‘relaxing the constraints of accountability’ (Hargreaves & Tucker, 1991, p. 503) and reducing what Mahony *et al.* (2004) term ‘surveillance overkill’ (p. 440). In a context in which teachers no longer feel that their every move is observed, monitored, inspected and assessed, they would not only be less likely to feel the need to cover up their perceived shortcomings, but also more likely to engage in genuine collaboration (rather than competition) with their colleagues, and less fearful of taking risks and making mistakes in their teaching, through which much learning and development can occur.

In a similar vein, and in common with the findings of a number of studies (e.g. Abell *et al.*, 1995; Heilbronn *et al.*, 2002) though challenging those of others (e.g. Yusko & Feiman Nemser, 2008), our research suggests that school-based mentoring and coaching are likely to be more effective in supporting teachers’ PLD where mentors and coaches are not also charged with the responsibility for assessing teachers’ performance or competence, an approach followed in some (including our own) but not all countries, particularly in relation to trainee and newly qualified teachers (Department for Education, 2010; Department for Education, 2012).¹³ More specifically, we would argue that mentors operating in performative cultures should avoid observing mentees’ lessons unless expressly requested to do so by a mentee, since this tends to cause anxiety and threatens the existence or establishment of the kinds of trusting and open relationships within which PLD is best fostered. Most EMs interviewed for the present study had not observed their mentees’ lessons, with one commenting that:

Some teachers think of lesson observations as judgements and assessments and there’s a reluctance [to request this kind of support] even though that’s not what I’m about. And I understand that. I was a classroom teacher for 19 years and I didn’t like being observed even in that 19th year. (SASP mentor)

Returning to one of the themes introduced in our review of the CPD literature earlier in this paper, it also follows from the findings of this study that policy-makers and school leaders should think twice about calls (e.g. Leaton Gray, 2005; Pedder & Opfer, 2010) to establish greater alignment between schools’ appraisal or performance management processes and CPD. Given the existence of the kinds of fabrications revealed in this paper, and the reasons for these, appraisal systems are unlikely to uncover all of a teacher’s PLD needs, so teachers should have the opportunity to access CPD opportunities which do not necessarily relate to the outcomes of appraisal. Again, for reasons discussed above, we would consider it prudent that the school-based colleagues responsible for supporting teachers’ PLD are not the same people as those responsible for carrying out their appraisal or performance management, and should not report to those who are.

Whether or not the recommendations set out above are to be followed – but especially if they are not – we would urge policy-makers and school leaders to explore means of providing more teachers with opportunities to access the support of an external mentor. Even if teacher surveillance and assessment are drastically reduced and efforts to create more open and collegial learning cultures in schools redoubled, teachers are unlikely to become comfortable ‘exposing their ignorance’ to their colleagues overnight, given the current context in which the assessment of their ‘competence’ is commonplace and in which, in performing for inspection, school leaders have firmly established and legitimized the process of producing and maintaining fabrications.

¹³ For further development of and support for this argument, see Hobson and Malderez (2013).

Finally, and more generally, the findings of this study cast doubt on the policy direction in this country (and some others) that has increasingly promoted school-based and school-led CPD provision, notably at the expense of local education authority advisors, but also potentially marginalizing other external partners such as those based in universities. While we have nonetheless seen an expansion of opportunities for school-to-school CPD provision through initiatives such as Teaching School Alliances and Academy Chains (Department for Education, 2010), it remains to be seen whether these will have a positive impact on teachers' PLD. It is possible that teachers will be no less likely to fabricate their perceived competence and professional development needs across what are becoming increasingly blurred boundaries between schools in the same consortia than they are within their own schools, while the effectiveness of school-to-school CPD may also be impeded where schools are perceived to be in competition with each other. These questions should be explored through – and future policy developments in this area informed by – further research. We would also welcome further investigation into the nature, causes and consequences of teacher fabrications, and into external mentoring and other potential antidotes to teacher fabrications as impediments to professional learning and development.

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References

- Abell, S. K., Dillon, D. R., Hopkins, C. J., McInerney, W. D. & O'Brien, D. G. (1995) 'Somebody to count on': Mentor/intern relationships in a beginning teacher internship program, *Teaching and Teacher Education*, 11(2), 173–188.
- Ball, S.J. (2003) The teacher's soul and the terrors of performativity, *Journal of Education Policy*, 18(2), 215–228.
- Ball, S. J. (1997) Good School/Bad School: paradox and fabrication, *British Journal of Sociology of Education*, 18(3), 317–336.
- BERA (2004) *Revised Ethical Guidelines for Educational Research* (Nottingham, British Educational Research Association).
- BERA (2011) *Ethical Guidelines for Educational Research* (London, British Educational Research Association).
- Blackmore, J. (2004) Leading as emotional management work in high risk times: the counterintuitive impulses of performativity and passion, *School Leadership & Management*, 24(4), 439–459.
- Bolam, R., & D. Weindling (2006) *Synthesis of research and evaluation projects concerned with capacity-building through teachers' professional development* (London, General Teaching Council for England).

Braun, V. & Clarke, V. (2006) Using thematic analysis in psychology, *Qualitative Research in Psychology*, 3, 77-101.

Bryk, A.S. & Schneider, B. (2003) Trust in Schools: A Core Resource for School Reform, *Creating Caring Schools*, 60(6), 40-45.

Bubb, S., Earley, P. & Hempel-Jorgensen, A. (2009) *Staff Development Outcomes Study* (London, Institute of Education).

CUREE (Centre for the Use of Research and Evidence in Education) (2008) *Qualitative study of school-level strategies for teachers' CPD* (London, General Teaching Council for England).

Childs, A. & McNicholl, J. (2011) Can science teachers learn PCK in school and how is this facilitated? Paper presented at the ESERA Conference, Lyon, France, 5-9 September 2011.

Cordingley, P., Bell, M., Thomason, S., & Firth, A. (2005) *The impact of collaborative continuing professional development (CPD) on classroom teaching and learning. Review: How do collaborative and sustained CPD and sustained but not collaborative CPD affect teaching and learning?* (London, Institute of Education).

Cordingley, P., Bell, M., Isham, C., Evans, D., & Firth, A. (2007) *What do Specialists do in CPD Programmes for Which There is Evidence of Positive Outcomes for Pupils and Teachers?* (London, Institute of Education).

Day, C. (1999) *Developing Teachers: The Challenges of Lifelong Learning* (London and New York, RoutledgeFalmer).

Day, C. & Gu, Q. (2007) Variations in the conditions for teachers' professional learning and development: sustaining commitment and effectiveness over a career, *Oxford Review of Education*, 33(4), 423-443.

Day, C., Sammons, P. Stobart, G., Kington, A. & Gu, Q. (2007) *Teachers Matter: Connecting Lives, Work and Effectiveness* (Maidenhead, Open University Press).

de Lima, J.A. (2003). Trained for isolation: the impact of departmental cultures on student teachers' views and practices of collaboration, *Journal of Education for Teaching*, 29(3), 197-217.

Deem, R. (1998) 'New managerialism' and higher education: The management of performances and cultures in universities in the United Kingdom, *International Studies in Sociology of Education*, 8(1), 47–70.

Department for Education (2010) *The Importance of Teaching* (London, HMSO).

Department for Education (2012) *Induction for newly qualified teachers (England): Guidance for appropriate bodies, local authorities, head teachers, school staff and governing bodies* (London, HMSO).

Earley, P. (2010) 'State of the Nation': a discussion of some of the project's key findings, *The Curriculum Journal*, 21(4), 473-483.

Edwards, A. (1998) Mentoring student teachers in primary schools: Assisting student teachers to become learners, *European Journal of Teacher Education*, 21(1), 47–62.

Feiman-Nemser, S., Carver, C., Schwille, S., & Yusko, B. (1999) Beyond support: Taking new teachers seriously as learners, in: M. Scherer (Ed.), *A better beginning: Supporting and mentoring new teachers* (Alexandria, VA, Association for Supervision and Curriculum Development), 3-12.

Goffman, E. (1959) *The Presentation of Self in Everyday Life* (New York, Doubleday).

Hammersley, M. (1996) The relationship between qualitative and quantitative research: paradigm loyalty versus methodological eclecticism, in J. T. E. Richardson (Ed.) *Handbook of Qualitative Research Methods for Psychology and the Social Sciences* (Leicester, British Psychological Society), 159–174.

Hargreaves, A. (2003) *Teaching in the knowledge society* (New York, Teachers College Press).

Hargreaves, A. & Tucker, E. (1991) Teaching and guilt: Exploring the feelings of teaching, *Teaching and Teacher Education*, 7(5), 491–505.

Hargreaves, D.H. (1980) The occupational culture of teaching, in: P. Woods (Ed.), *Teacher strategies: Explorations in the sociology of the school* (London, Croom Helm), 125–148.

Heilbronn, R., Jones, C., Bubb, S. & Totterdell, M. (2002) School-based induction tutors – a challenging role, *School Leadership and Management*, 22(4), 371–388.

Hemsley-Brown, J. & Sharp, C. (2003) The use of research to improve professional practice: a systematic review of the literature, *Oxford Review of Education*, 29(4), 449–470.

Hobson, A.J. & Ashby, P. (2012) Reality aftershock and how to avert it: second year teachers' experiences of support for their professional development, *Cambridge Journal of Education*, 42(2), 177–196.

Hobson, A.J. & Malderez, A. (2013, in press) Judgementoring and other threats to realizing the potential of school-based mentoring in teacher education, *International Journal of Mentoring & Coaching in Education*, 2(2).

Hobson, A. J., Malderez, A., Tracey, L., Homer, M. S., Ashby, P., Mitchell, N., McIntyre, J., Cooper, D., Roper, T., Chambers, G. N. & Tomlinson, P. D. (2009) *Becoming a Teacher: Teachers' Experiences of Initial Teacher Training, Induction and Early Professional Development* (Nottingham, Department for Children, Schools and Families).

Hobson, A.J., McIntyre, J., Ashby, P., Hayward, V., Stevens, A. & Malderez, A. (2012) *The nature, impact and potential of external mentoring for teachers of physics and other subjects in England* (London, Gatsby Charitable Foundation).

Hobson, A.J. & Townsend, A.J. (2010) Interviewing as educational research method(s), in: D. Hartas (Ed.) *Educational Research and Inquiry: Qualitative and Quantitative Approaches* (London, Continuum), 223-238.

Hopkins-Thompson, P. A. (2000) Colleagues helping colleagues: mentoring and coaching, *NASSP Bulletin*, 84(617), 29–36.

Hustler, D., McNamara, O., Jarvis, J., Londra, M. & Campbell, A., with Howson, J. (2003) *Teachers' Perceptions of Continuing Professional Development* (Nottingham, Department for Education and Skills).

Jeffrey, B. (2002) Performativity and primary teacher relations, *Journal of Education Policy*, 17(5), 531-546.

- Jenkinson, K., Turner, K., Lambley, C. & James, D. (2011) *Evaluation of the Stimulating Physics Network: Final Report for The Institute of Physics and National Science Learning Centre* (York and Milton Keynes, Babcock Research).
- Keddie, A., Mills, M. & Pendergast, D. (2011) Fabricating an identity in neo-liberal times: performing schooling as ‘number one’, *Oxford Review of Education*, 37(1), 75-92.
- Kennedy, A. (2005) Modes of continuing professional development: a framework for analysis, *Journal of In-Service Education*, 31(2), 235-250.
- Kwakman, K. (2003) Factors affecting teachers’ participation in professional learning activities, *Teaching and Teacher Education*, 19, 149-70.
- Leaton Gray, S. (2005) *An Enquiry Into Continuing Professional Development for Teachers* (London, Esmée Fairbairn Foundation).
- Lingard, B. (1995) Re-articulating relevant voices in reconstructing teacher education. The Annual Harry Penny Lecture, University of South Australia.
- Luft, J. (2007) Minding the gap: Needed research on beginning/newly qualified science teachers, *Journal of Research in Science Teaching*, 44, 532–537.
- Lumby, J. (2009). Performativity and identity: mechanisms of exclusion, *Journal of Education Policy*, 24(3), 353-369.
- Lyotard, J.F. (1979) *The Postmodern Condition: a report on knowledge* (Manchester, Manchester University Press).
- Malderez, A. & Bodoczky, C. (1999) *Mentor Courses: A Resource book for Trainer Trainers*, Cambridge University Press, Cambridge.
- McIntyre, J., Hobson, A.J. & Mitchell, N. (2009) Continuity, support, togetherness and trust: findings from an evaluation of a university-administered early professional development programme for teachers in England, *Professional Development in Education*, 35(3), 357-381.
- MacBeath, J. & Galton, M., with Steward, S., Page, C., & Edwards, J. (2004) *A Life in Secondary Teaching: Finding Time for Learning* (Cambridge, Cambridge Printing).
- Mahony, P., Menter, I. & Hextall, I. (2004) The emotional impact of performance-related pay on teachers in England, *British Educational Research Journal*, 30(3), 435-456.
- McNally, J. (2006) From informal learning to identity formation: a conceptual journey in early teacher development, *Scottish Educational Review*, 37, 79–90.
- Moor, H., Jones, M., Johnson, F., Martin K., Cowell, E. & Bojke, C. (2006) *Mathematics and Science in Secondary Schools: The Deployment of Teachers and Support Staff to Deliver the Curriculum* (Nottingham, DfES).
- Opfer, V.D. & Pedder, D. (2010) Benefits, status and effectiveness of Continuous Professional Development for teachers in England, *Curriculum Journal*, 21(4), 413-431.
- Osborne, J., & Dillon, J. (2008) *Science education in Europe: Critical reflections* (London, The Nuffield Foundation).

Pedder, D., James, M. & MacBeath, J. (2005) How teachers value and practise professional learning, *Research Papers in Education* 20(3), 209–43.

Pedder, D. & Opfer, V.D. (2010) Planning and organisation of teachers' Continuous Professional Development in schools in England, *Curriculum Journal*, 21(4), 433-452.

Perryman, J. (2009) Inspection and the fabrication of professional and performative processes, *Journal of Education Policy*, 24(5), 611-631.

Sandholtz, J. (2002) Inservice training or professional development: contrasting opportunities in a school/university partnership, *Teaching and Teacher Education*, 18, 815-830.

Sharp, C., Eames, A., Sanders, D. & Tomlinson, K. (2005) *Postcards from Research Engaged Schools* (Slough, NFER).

Shepherd, C. (2008) Towards physics: training programmes for non-specialists, *School Science Review*, 89, 1-5.

Shulman, L. S. (1986) Those who understand: Knowledge growth in teaching, *Educational Researcher*, 15, 4-14.

Schlenker, B.R. (1980) *Impression Management: The Self-Concept, Social Identity, and Interpersonal Relations* (Monterey, CA, Brooks/Cole).

Sullivan, H.S. (1953) *The Interpersonal Theory of Psychiatry* (New York: W.W. Norton).

Tashakkori, A., & Teddlie, C. (1998) *Mixed methodology: Combining qualitative and quantitative approaches* (Thousand Oaks, CA, Sage).

Tomlinson, P.D. (1999a) Conscious reflection and implicit learning in initial teacher preparation. Part I: Recent light on an old issue', *Oxford Review of Education*, 25(3), 405-424.

Tomlinson, P.D. (1999b) Conscious reflection and implicit learning in initial teacher preparation. Part II: Implications for a balanced approach, *Oxford Review of Education*, 25(4), 533-544.

Tomlinson, P.D., Hobson, A.J. & Malderez, A. (2010) Mentoring in Teacher Education, in: McGaw, B., Peterson, P.L. & Baker, E. (Eds.), *International Encyclopedia of Education* (Amsterdam/New York/Oxford, Elsevier), 749-756.

Veenman, S., Denessen, E., Gerrits, J. & Kenter, J. (2001) Evaluation of a coaching programme for cooperating teachers, *Educational Studies*, 3, 317–340.

Webb, R., Vulliamy, G., Sarja, A., Hämäläinen, S. & Poikonen, P. (2009) Professional learning communities and teacher well-being? A comparative analysis of primary schools in England and Finland, *Oxford Review of Education*, 35(3), 405-422.

Yusko, B. & Feiman Nemser, S. (2008) Embracing Contraries: Combining Assistance and Assessment in New Teacher Induction, *Teachers College Record*, 110(7), 1–12.