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Professional learning communities as drivers of educational change: The case of learning rounds

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Abstract Many researchers claim that there is a compelling weight of evidence for the effectiveness of PLCs in promoting teachers' learning and pupil achievement. However, others raise fundamental questions about their nature and purpose. Some of the uncertainties about the nature and purpose of PLCs relate to the ways in which the macro-context of neo-liberalism has shaped the practices of PLCs in particular ways. The fundamental questions raised about PLCs relate to the type of change they are intended to produce, the model of community they are based on and whether the right conditions and skills are in place for them to contribute to change. Some researchers argue that we need to pay more attention to shortcomings within existing PLCs and their internal dynamics. Others argue that little research focuses on the specific interactions of teachers inside PLCs. The research reported here goes 'inside the teacher community' of Learning Rounds to explore what the shortcomings of some examples of this model in practice add to what we know about how to assist PLCs to produce change in education.

Keywords Instructional rounds · Learning rounds · Professional learning communities

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Introduction

PLCs and rounds

Much academic literature on professional learning communities (PLCs) argues that there is broad agreement about their key features. However, concern has been expressed that the term has become so ubiquitous that it is in danger of losing its meaning (DuFour 2004, 2007; Owen 2014; Watson 2014). In an attempt to bring restored clarity to the "confusion about the fundamental concepts" (Dufour 2004, p. 6) that he believes has beset PLCs, Dufour offers three 'big ideas':

1. Ensuring that students learn; a shift from a focus on teaching to a focus on learning;
2. A culture of collaboration; "a systematic process in which teachers work together to improve their classroom practice" (ibid, p. 9).
3. A focus on results through the analysis of student performance data.

Similarly, Stoll et al. (2006, p. 222), while acknowledging that "there is no universal definition of a professional learning community" suggest five key characteristics that define PLCs:

1. Shared values and vision.
2. Collective responsibility.
3. Reflective professional inquiry.
4. Collaboration.
5. Group as well as individual learning is promoted.

Rounds (City et al. 2009; Del Prete 2013) is a form of collaborative professional development in which educators come together to observe teaching and learning across a number of classrooms in a school. In a post-observation debrief they use notes and other forms of recording, such as diagrams, to build up a detailed, descriptive, evidence-based picture of teaching and learning in the school. This is used to develop understanding of the teaching and learning practice in the school and decide what needs to be done to develop that practice.

In early publications on Rounds, their distinguishing features are clearly delineated. However in recent research and practice the problem of loss of meaning for PLCs in general is also besetting Rounds in particular. The content of a special edition of the *International Journal of Educational Research* on Rounds (Volume 73, 2015) suggests it is becoming a label attached to a diversity of practices some of which are contrary to the initial design(s) of Rounds and some of which relabel long standing practices with the intention of catching the zeitgeist.

However, in general Rounds share their defining features with PLCs. They:

- Focus on student learning.
- Are concerned with the generation and analysis of data about learning.
- Promote systematic collaboration.

- Seek to promote shared culture and knowledge.
- Are concerned with group or systemic learning not just individual learning.

This lack of consistency about both PLCs and Rounds, and the overlap between them, mean it is reasonable to see them as part of the same group of practices. Rounds can be viewed as a particular approach to PLCs and the practice of, and literature relating to, Rounds and PLCs can be mutually illuminating. In this paper, the term PLCs will be used generically to include Rounds.

Current questions about the nature and purpose of PLCs

Many researchers claim that there is a compelling weight of evidence for the effectiveness of PLCs in promoting teachers' learning and pupil achievement. However, others raise fundamental questions about their nature and purpose or argue that they are the latest in a long line of similar innovations that have not, in the past, been successful (Joyce 2004; Servage 2008). Some of these uncertainties about the nature and purpose of PLCs relate to how the macro-context of neo-liberalism has shaped PLCs in particular ways (Bottery 2003; Servage 2009; Allen 2013). A similar concern has been raised about Rounds in particular with their focus on performativity measures and the effective implementation of centrally mandated policy (Ellis et al. 2015; Roegman and Riehl 2015).

Fundamental questions raised about PLCs in the literature reviewed in this paper include:

- The type of change they are intended to produce;
- The model of community they are based on;
- Whether the right conditions and skills are in place for them to contribute to change.

What type of change are PLCs intended to produce?

Questions about the type of change produced by PLCs divide into two types:

1. What is supposed to change?.
2. How radical is that change intended to be?.

In terms of type of change, PLCs could be focused on producing new teaching practices or they could be focused on producing changed teacher relationships and culture (City et al. 2009; Allen 2013; Ellis et al. 2015). While these are not mutually exclusive, one or the other can be foregrounded in the literature and practice of PLCs.

In terms of how radical change is, it could be reformation or transformation (Servage 2008). Reformation of practice improves practice to achieve more efficiently existing mandated goals. Transformation involves questioning goals as

well. Reformation of culture and relationships is better alignment with mandated views of what they should be. Transformation involves questioning the nature of relationships including those between teachers, pupils and central authorities and hierarchies.

Servage (2008) comments that claims in the literature are often for transformational change but transformation into what is less clear. Riveros et al. (2012) argue that improved practice is the goal but the nature of that improved practice can be uncertain. Allen (2013) suggests that teacher groups are sometimes more concerned with the process of collaborating as a community than they are with a clear view of the outcome.

Questions about transformation or reformation of practice relate to questions about the breadth of focus of PLC scrutiny. Little (2003) uses Hutchins' (1996) idea of horizon of observation to ask what aspects of practice are scrutinized during collaborative learning. Arguably, the 'derivatization of practice' that is a recurring imperative in work on PLCs only relates to the reformative scrutiny of techniques of teaching and not to transformatively scrutinizing the goals of education, which might be considered 'off limits'. Codd (2005), Bottery (2003) and Servage (2009) link this to a neoliberal form of professionalism in teaching that limits itself to considering efficient implementation while leaving authority for governance and policy formulation to others.

Where PLC research does identify an impact on changing teachers' fundamental educational vision and values this is invariably in the direction that is mandated by authority (e.g. Tam 2015). Although Nehring and Fitzsimons (2011) suggest PLCs are "countercultural", this seems to be counter to what is perceived as teachers' existing culture rather than counter to performativity.

This limitation of scrutiny can also relate to the established discursive categories and classifications of classroom practice used by teachers which "supply both resources for and impediments to learning and change" (Little 2003, p. 918). Accounts of practice "rely heavily on a certain shorthand terminology and on condensed narratives that convey something of the press of classroom life without fully elaborating its circumstances or dynamics" (ibid, p. 936). Little questions whether teacher communities 'reify' or 'interrupt' this language of practice.

Linked to these concerns about horizons and discourse are concerns about how the practices of PLCs naturalise a particular ontology and epistemology (Watson 2014; Roegman and Riehl 2015; Stickney 2015). The notion of evidenced-based teaching associated with PLCs gives rise to a particular view of the questions that teachers can and should ask about education in terms of scope (i.e. observable techniques) and what constitutes evidence in relation to those questions (i.e. measurable data). It constructs a positivist view of truth as objective and value free (Roegman and Riehl 2015; Stickney 2015).

There is also uncertainty about how individual learning in PLCs relates to collective or systemic learning (Sleegers et al. 2013; Watson 2014; Ellis et al. 2015). If the focus of PLCs is on community and culture building, the assumption is that system change will result from an aggregation of local improvements. If the focus of PLCs is on generating new practice, then systemic change can result from capturing and communicating new knowledge (e.g. Ellis et al. 2015). This latter course would

also be a form of (potentially transformational) relationship change as teachers could become producers of pedagogical knowledge rather than solely consumers and implementers.

What model of community are they based on?

Fendler (2006, p. 304) argues community is a notion that "seems never to be used unfavourably and never given any positive opposing or distinguishing term" even though communities can reinforce existing social power relationships and "foreclose possibilities for diversity" (ibid, p. 310). Concerns about "mandated" (Servage 2009, p. 150) community have been expressed in relation to PLCs, in which "co-operation turns into co-optation" (Stickney 2015, p. 490) such that teachers are positioned as both agents and subjects in a process of adopting an imposed policy agenda and conducting surveillance of colleagues to ensure that it is implemented (Bottery 2003; Codd 2005; Fendler 2006; Watson 2014; Ellis et al. 2015).

The most commonly cited feature for 'successful' PLCs is that teachers need a shared vision and values. However, it seems that not any shared vision or values will do, it needs to be a particular mandated vision and values (Fendler 2006; Servage 2009; O'Keeffe 2012; Watson 2014; Ellis et al. 2015). Vescio et al. (2008) suggest that this mandated vision and values encompasses a comprehensive range of issues, including the legitimacy of current curricular goals and measures of success, and the desirability of certain forms of collaboration. To demur from this runs the risk of being considered unprofessional or outside the community (Riveros et al. 2012). Additionally, Codd (2005) suggests that attempts by teachers to resist these neoliberal solutions run the risk of seeming to be evidence for why they are necessary.

In much of the PLC literature the need for teachers to have a new culture often seems to be perceived from outside of that culture by management and politicians rather than, initially, by teachers themselves (Joyce 2004). Vongalis-Macrow (2007) writes about teachers receiving periodic 'makeovers' through new forms of professional development that are imposed upon them. PLCs can be perceived as another form of makeover visited on teachers from outside while appearing to make them the agents of this reculturation.

Many examples of PLCs in the literature are driven from the top or centre by school leaders and/or local government. For example, Leclerc et al. (2012) give principals a surprisingly important role in developing the capacity of teachers to do anything useful collaboratively. Nehring and Fitzsimons (2011) similarly represent a top down model of PLC development, apparently approvingly.

An alternative view of the value of teacher community in relation to imposed mandates is suggested by Maloney and Konza (2011, p. 76) who draw on Dadds (1998) to argue that "the need for practitioners to work together becomes stronger when they strive to guard against conflicting government views of professional work … [and] to find the resolve to engage with and question change". This opens up alternative versions 'de-privatising practice' might mean. On the one hand it can mean the surveillance by the group on behalf of authority. On the other, it might

mean isolated practitioners sharing their experiences to make common cause against imposed practices and interpretations of education (Servage 2009).

Are the right social conditions and skills in place to produce change?

As well as political and social concerns about (the imposition of) homogeneity, there are also questions about how this effects learning in PLCs. A number of researchers argue that diversity and dissent are necessary for collaborative learning, particularly transformative learning, and that emphasis on shared vision and values can be inimical to this (Fendler 2006; Servage 2008; Watson 2014; O'Keeffe 2012; Ellis et al. 2015; Stickney 2015). There is also concern that teachers' well established social community can be mistaken for the type of robust professional community that can productively manage fundamental disagreements (Dooner et al. 2008; Nehring and Fitzsimons 2011; O'Keeffe 2012). A desire to preserve the existing supportive harmony of social community might lead to attempts to avoid disruptive conversations (Maloney and Konza 2011; Allen 2013; Owen 2014).

This challenge relates to uncertainty in the literature about whether community is a prerequisite for a PLC or its outcome. Joyce (2004, p. 78) writes of PLCs as a "collision with the norms and structure of the workplace". Roberts (2012, p. 10) writes that Rounds are "intended to disrupt the typical patterns of interaction between adults in schools". If appropriate professional community is an outcome of PLCs not a starting point, we need to consider how the required skills and behaviours are developed (Joyce 2004; Dooner et al. 2008; Maloney and Konza 2011; Thessin and Starr 2011; Leclerc et al. 2012; Owen 2014; Balyer et al. 2015) and whether there is the will to work through difficulties after the early stage of development (DuFour 2007; Maloney and Konza 2011).

Questions are also raised about how open PLCs should be to be effective. Concern is expressed that closed communities can be limited and that external perspectives and access to research perspectives are also needed, particular where there is strong 'vertical accountability' (Little 2003; Stoll et al. 2006; Vescio et al. 2008; Owen 2014, Watson 2014; Ellis et al. 2015; Roegman and Riehl 2015; Stickney 2015).

Questions about the existing nature of communities and the community transforming skills of individuals within them have led to the creation of developmental models and the argument that PLCs might need different support at different stages (Grossman et al. 2001; Dufour 2004, 2007; Stoll et al. 2006; Dooner et al. 2008; Leclerc et al. 2012). Joyce argues that we need to recognise that the PLC process is imperfect. He argues that previous attempts would have been more successful if we had paid more attention to failures and if PLCs had studied "dynamics of their own work" (Joyce 2004, p. 82) as well as studying student learning. Sims and Penny (2015) and Riveros et al. (2012) similarly argue for the importance of studying PLC failures and Thessin and Starr (2011) emphasise the importance of gathering data on PLCs to enhance their future operation.

In summary, a number of possible limitations with current PLC practices are raised that might well inhibit their ability to contribute to transformational change. These are:

- A focus or horizon of observation that is restricted to implementation of mandated practices
- The reifying use of existing discursive categories to discuss practice
- A focus on measurable evidence within an existing paradigm that obscures questions of values or alternative paradigms.
- A lack of clarity about how individual learning becomes systemic learning.
- An emphasis on community homogeneity as a starting point for PLC activity.
- The relatively closed nature of PLCs.
- Whether the work needed to develop appropriate professionally robust interpersonal skills is sufficiently acknowledged.
- Whether sufficient attention is paid to limitations and failures in current PLC practices so that we can learn from them.

In the pursuit of studying the dynamics and failures of teacher communities, Little argues that very little research focuses on the specific interactions of teachers by going 'inside teacher community' to "further open the black box of professional community and show when and how it is conducive, or not, to the transformation of teaching" (Little 2003, p. 940). Ellis et al. (2015) continue to make the same argument, this time specifically in relation to Rounds, over a decade later.

The research reported here goes 'inside the teacher community' of Learning Rounds in Scotland to "further open the black box of professional community and show when and how it is conducive, or not, to the transformation of teaching", thereby adding to the very small stock of research that presents fine grained analysis of teacher interactions in PLCs. The research also uncovers problems with the examples of Learning Rounds in Scotland and, as such, seeks to be "instructive" by learning from these difficulties.

Instructional rounds and learning rounds in Scotland

Learning Rounds is based on the Instructional Rounds practice developed in the USA (City et al. 2009; Roberts 2012). As a form of professional and school development Learning Rounds has been endorsed by the Scottish Government (Scottish Government 2010a, b, 2012, 2013) and has been promoted by the Scottish Government funded National CPD (Continuing Professional Development) Team (National CPD Team 2011). A National CPD Team and Education Scotland overview report (Education Scotland 2011) estimated that 24 (out of 32) local authorities had engaged in Learning Rounds. Education Scotland is the national body responsible for supporting improvement in learning and teaching.

City et al. (2009) and Roberts (2012) claim that Instructional Rounds are more effective than other similar approaches to collaborative professional learning. The defining features of Instructional Rounds that are claimed to make it an effective practice are:

- Developing a 'rich problem of practice' for investigation, based on shared evidence, focused on the 'instructional core' that

- is directly observable,
- is actionable (is within the school's or district's control and can be improved in real time),
- connects to a broader strategy of improvement (school, system),
- Is high-leverage (if acted on, it would make a significant difference for pupil learning).

- The use of fine grained *descriptive* data about what is observable (but not what is not observable) in classrooms that can be used for later analysis and prediction and, finally, evaluation.
- a wider strategy for improvement that is linked to the problem of practice and the observations.
- A developing theory of action about how different actions affect outcomes.

The practice of Instructional Rounds is argued to have a reciprocal relationship with changed culture in schools. It is intended to produce this changed culture and, in turn, needs the changed culture to function effectively. Some of the terms in the features outlined above require further explanation. The instructional core is the relationship between pupil, teacher and learning. Data needs to be initially descriptive rather than evaluative so that later evaluations can be based on robust evidence. Describing what is not observable is considered to be evaluative as it implies an absence of something that should be there. A theory of action is a "*statement of a causal relationship* between what I do … and what constitutes a good result in the classroom … [i]t must be *empirically falsifiable* [and] [i]t must be *open ended*" (City et al. 2009, p. 40, italics in original). The open ended requirement means that it must be amendable as more is discovered about the situation(s) being observed.

Learning Rounds reproduces some these defining features but differs in respect to others (Education Scotland 2011; National CPD Team 2011). *The Learning Rounds Toolkit* (National CPD Team 2011, p. 9) includes references to the importance of a "plan of action" emerging from the post-observation stage that relates to Instructional Rounds emphasis on a theory of action. However, it is worth noting that this is a *plan* and not a *theory* so it could become a set of actions to be carried out rather than a developed understanding of the cause and effect of particular actions.

Most of the guidance on the practice of Learning Rounds focuses on the observation and the debrief (National CPD Team 2011). Perhaps the most conspicuous absence in comparison to Instructional Rounds is the lack of attention given to developing a "rich problem of practice". This is treated more briefly in Learning Rounds as "the theme of the observation is agreed by the group" (ibid, p. 9). The relative lack of attention given to this area, and the change from *theory* of action to *plan* of action, could result in Learning Rounds practice in Scotland that focuses on observation and debrief at the expense of other equally important parts of the process and, therefore limits the horizon of the practice to technical improvement without necessarily developing deeper understanding.

Data gathering and method

Scottish context

Scotland has a single curriculum that applies to all children 3–18, Curriculum for Excellence (CfE). However, CfE gives enough freedom to schools to make detailed decisions about implementation. This latitude for schools has led to increased emphasis on high quality professional development (Scottish Government 2010a). Learning Rounds has been seen as part of this. There is a single form of non-selective school organisation within publicly funded schools. Schools are managed through thirty-two municipal authorities, known as local authorities. The OECD (2007, 2015) judged that Scottish education was, internationally, comparatively highly achieving and inclusive, and quality between schools was comparatively consistent. However there are concerns about differences in achievement within schools based on students' socio-economic background.

Data

The data in this paper are extracts from Learning Rounds post-observation debrief discussions that were audio recorded and then transcribed. Each of these meetings was about an hour long.

Table 1 shows the four schools involved in the data gathering, their experience and training with Learning Rounds and the nature of the participants in the data. Each school was in a different local authority. They were chosen as a convenience sample (Walliman and Buckler 2008), because they were conducting Learning Rounds when we wanted to gather the data, and a purposive sample (Jupp 2006) because they represented four local authorities and were more likely to present a wider picture of practice than might have been found in a single local authority.

School A serves a mixed socio-economic area. The teachers are mostly of mid-range experience with some less experienced. None had any previous experience of Learning Rounds. Learning Rounds was promoted in the school by the Local Authority for school improvement after an unfavourable school inspection. The Deputy Head Teacher organised the Learning Round.

School B was in a mid-sized town in a rural area. There was no significant deprivation in the area. The teachers were early career. They had previous experience of Learning Rounds, which was promoted in the school by a Principal Teacher (teacher responsible for leading a subject area).

School C was a new, large school in a large new town. The teachers were mostly early stage teachers who had previously arranged Learning Rounds themselves. It had been driven in the school by a young Principal Teacher.

School D was a new school in a small town in a rural, affluent area. The teachers were a mixture of experienced staff and novice staff. Many had previous experience of Learning Rounds. The lead responsible member of staff was a Principal Teacher.

Table 1 Schools and participants represented in the data

Type of school	Experience with learning rounds	Preparation for learning rounds	Nature of participants	Coding in transcript	Focus of learning round observation
School A: primary school	None	Guidance from national CPD coordinator; information accessed on Education Scotland website	Teachers including Head Teacher plus 3 Local Authority representatives	AA-Depute Head Teacher (facilitator); AB- Head Teacher; AC-class teacher; AD-LA representative; AE- LA representative; AF-LA representative; AG-class teacher; AH-class teacher Transcript line numbers 1–370	Pupils' awareness of learning intentions and success criteria; differentiation; challenge and pace; independent learning
School B: secondary school with feeder primary school	Second time	Guidance from national CPD coordinator	Teachers including CPD co-ordinator	BA-teacher (facilitator) BB-teacher BC-teacher BD-teacher BE-teacher BF-teacher Transcript line numbers 1–312	Learning intentions Plenaries Formative assessment

Table 1 continued

Type of school	Experience with learning rounds	Preparation for learning rounds	Nature of participants	Coding in transcript	Focus of learning round observation
School C: community secondary school	Third or fourth time for different participants	Some support at Local Authority level	Teachers including CPD co-ordinator	CA-teacher (facilitator) CB-teacher CC-teacher CD-teacher CE-teacher Transcript line numbers 1–312	Learning intentions Target setting Opportunity to work at increased pace Questioning
School D: community campus School (nursery, primary, secondary)	Fourth time	Visit to another school in another Local Authority that had experience	Teachers including CPD co-ordinator	DA-teacher (facilitator) DB-teacher DC-teacher DD-teacher DE-teacher DF-teacher DJ-teacher Transcript line numbers 1–285	Development of skills Pupil participation Questioning Behaviour management Group work Use of ICT Active learning Challenge and extension/ differentiation Uniform Use of learning intentions

Data analysis

The following analysis of extracts from the transcript data is organised according to the elements of Instructional Rounds summarised earlier.

A rich problem of practice based on shared evidence focused on the 'instructional core'

The nature of transcript data of post-observation debriefs means that there will be some aspects of Learning Rounds practice that might not be entirely visible. One of these will be any work done on developing a problem of practice before the observations. However, it is likely that the salience or otherwise of the problem of practice in the process will be reflected in what is discussed in the post-observation debrief.

All four schools were making use of agreed foci for observations and it is worth remembering that the Learning Rounds toolkit emphasises agreeing a focus for observation rather than developing a problem of practice. Agreeing a focus does not guarantee that the focus will share the requirements that City et al. (2009) set out for a "rich problem of practice".

The observation foci of the four schools overlapped and some foci recurred in all schools. Most of the recurring foci grouped around techniques associated with assessment for learning (Wiliam 2011) and this probably reflects teaching and learning techniques that have been considered to be good practice recently in Scottish education. These are clearly 'directly observable' and 'actionable' and could 'connect to a broader strategy of improvement'. Recent interest in the value of formative assessment in teaching and learning would suggest that it is, at least potentially, 'high leverage'. Arguably this problem of practice is 'based on shared evidence' if we consider the evidence that has underpinned the academic interest in formative assessment in recent years. However, not everybody agrees that some of the teaching and learning practices that have arisen from it are actually beneficial (for example, Klenoski 2009; Bennett 2011; Dixon et al. 2011; Swaffield 2011; Willis 2011; Hawe and Parr 2014). It is less clear that the focus for observation is underpinned by evidence shared among the participants in the Learning Round. This is both in terms of how familiar participants are with the academic evidence that has underpinned the interest in formative assessment (including critical voices) and in terms of whether they have shared evidence generated within their own school for the effectiveness of these formative assessment processes.

The generation of shared evidence for the effectiveness (or just the effect) of a practice relates to focus on the 'instructional core' in the problem of practice; on the relationship between teachers, learners and content rather than just on one of these to the exclusion of others. In schools B and D the observers spent most of their time recording what teachers were doing and little time recording what pupils were doing. This meant that they recorded whether teachers had used a particular strategy but they did not record what the effect had been on pupils' learning. This became

particularly evident in school B in the exchange between teachers BA and BB below.

BA: … in few lessons there was challenge to SC [success criteria], so the SC wasn't really a challenge like… one of the teachers uses a problem, so the SC is being able to solve this problem by the end of the lesson, so it's a challenge. Do we want to say something about that or do we leave it?
BB: It's one of the hard ones because we didn't know the kids so it was hard to say if they were being challenged in that lesson because it wasn't obvious
Lines 301–306

The focus on teachers' use of strategies rather than on what pupils are doing has made it difficult to judge if pupils are being challenged whereas a focus on pupils would have yielded evidence for this. So the problem of practice here is teacher behaviours rather than the instructional core. City et al. (2009, p. 30) state that one of the hardest things to achieve in Instructional Rounds is to get teachers to look at what is on pupils' desks rather than what is happening at the front of the room. This certainly seems to have been the case with schools B and D.

According to City et al. (2009), Instructional Rounds should not be used as an audit to check whether particular strategies are being implemented. In School B and School D there is a strong sense that the Learning Round is being used to report back on how far teachers are using certain mandated teaching and learning techniques in the classroom rather than to generate evidence for the effect of these strategies on learning.

This sense comes across particularly strongly in the frequency with which the groups discuss how to articulate what they have seen and the effects that different ways of articulating it might have on the audience for their report back. A particularly clear example is given below.

BE: I think what I was trying to say when I said I didn't want judgement was I didn't want secondary staff to take any sort of offence and that's what I mean by …you know
BC: I don't know who would take offence
BB: Some people would
BE: That's what I'm thinking
BA: OK
BE: And plus, we could then be saying, well we seen this in secondary but we didn't see this in primary you know with the same
BA: It's a bit like what I'm saying about the departments
BF: I don't feel we should be looking at it as a dividing …
BA: So shall we just leave it out?
Lines 62–72

The end purpose of capturing the data is clearly conceived as reporting back in positive terms rather than generating a collection of evidence that would allow the relationship between teaching strategies and their effects to be better understood so

that future developments can be planned. This has effects on whether the data they generate is fine grained or not. We consider this in the next subsection.

The transcript for school A differs significantly from schools B and D. The majority of the discussion in school A focuses on pupils rather than on what the teacher is doing. For example, in the extract below AB uses observation of pupils to start to unpick the distinction between pupils being *aware* of learning intentions and pupils *understanding* learning intentions:

> AB: It's interesting for me the use of the word "awareness of learning purpose" and for me there is a difference between awareness and understanding … because I would say across all four classes that almost all children were aware that there was a learning purpose and there was really only one child I felt that was disengaged and wasn't even aware there was a learning purpose and then I would then split that down further to say that within that there was quite a range of children in terms of what they understood the learning intention and that reflected sometimes the ability of the groups and the discussion groups they were in so there was a difference even within groups of how well the children were understanding the learning intention and across the whole class …
>
> Lines 109–116

In places this discussion also seeks to make connections between the variations in approaches that teachers were using within the same general technique of sharing learning intentions and the effects these had on pupils. Early in the post-observation discussion AB says:

> AB: …the whole point of this is to get a feedback on the activities and the impact on pupils …
>
> Lines 8–9

This is a succinct expression of the focus on the instructional core. An example of this follows on from AB's observations in the extract from lines 109–116 where AB says

> Some teachers chose to write up the LIs as I can statements, others didn't so there was a difference in terms of how the staff were presenting the LIs …..
>
> Lines 116–118

So AB is beginning to reflect on the particular ways in which teachers chose to share learning intentions and the differing effects this might have had on pupils' understanding.

These discussions that focus on the instructional core begin to show the potential to inform a refined or developed theory of what is effective in classrooms in this school (a theory of action). This in turn might lead to a refinement of the overall improvement strategy that the school is using. The focus on the need to share learning intentions and success criteria might be redefined as a more precise

statement of the types of technique for doing this that seem more effective in terms of effects on pupils' learning.

However, towards the end of this episode, when the key information from the observations is being recorded, an audit approach reappears and what is captured is the frequency with which certain general techniques have been seen rather than the developing understanding of the differing effects of different ways of implementing these techniques on pupils' learning

AA: OK well I'm going to try to I don't know if this is …thinking about our discussion so the LIs and SCs were evident displayed and shared in most or all classes; most children had an understanding of purpose, confusion in one class—difference between LIs and SCs; children had clear understanding of the purpose of the task but not so clear about the purpose of the learning in some classes. There's a difference in terminology between awareness and understanding. Em if we're looking at it this way awareness of learning purpose—all, almost all, most, some or few children in how many classes, kind of summing up on the discussion we've just had
AE: I've certainly got an aggregate score of most
A (unknown): Yes
AA: That would be my feeling
A (unknown): Yes
AA: so most children in all classes? Or most children in most classes
AD: Most and most
A (unknown): Yes
A (unknown): Yes
AA: OK……. right so if we look at differentiation now

Lines 160–175

Some rich insight was being developed into a problem of practice that could have been used to refine the school's approach to improving teaching and learning (a theory of action) but it appears to not have been captured for use by the wider system. Participants in the conversation might well carry away developing insights with them but it is not clear how this can be used to inform the thinking of the wider system.

Like Schools B and D, School C begins their discussion by focusing on a checklist of whether they have seen teachers using certain classroom strategies that are considered good practice. However, school C does move relatively quickly to talking about what pupils are doing. The extract below is an example.

CE: What I liked about it was very much it was peer—supportive as well and in the group—I think we seen that in nearly every lesson and even in, when it wasn't so deliberately saying I want you to work in pairs and I spoke to the Kids in X's lesson and said is he happy for you to work with each other and they said absolutely he doesn't mind so (inaudible)
CD: It's a culture isn't it?

CA: So what I thought about that well what I noticed was it was very similar to the way I organise my class is that because he's got a mixed ability class and it's almost the same class that I've got in science that there seemed to be students of differing ability in groups together which automatically means that you've got I think (inaudible) and I definitely saw, I think peer support where the students were helping each other
CB: That was one thing I was wondering in that we watched so much group and pair work had the pairs been put together intentionally or are they fitting where they want are they with friendship groups I wanted to know that so I wonder
CC: I asked Y and a couple of pupils at the back—I asked is this just where you sit she said oh we just chose our seats—we work with who we sit next to
CB: Example I saw see when we were in French and there was the task obviously with the verbs and [teacher] actually said to S work with my partner clearly pairing him up with a more able student.
CE: I noticed that—I've written that down that I hear her more than once say—and have you asked your partner yet, and they were encouraged to work together.
CC: we saw M doing it at the start she said that on the whole you line up—it was in hair length and then you number them and that's how she does her groups—hers is totally at random. I've used that before I think it works really well because it is random
CB: I think in a set group that you could do a random selection like that but transform that into mixed ability class would mean more … saying now we're having this discussion saying, you know you would need to almost mentally set them in your head and make sure that each group had one from or whatever to actually make that work in a mixed ability class

Lines 59–84

Although this extract does focus on the instructional core, what also begins to become apparent is that the participants in school C are focusing on the perceived value of particular classroom techniques in isolation rather than linking this to a broader theory of action as participants in school A were beginning to.

So while participants in school C are considering the effects of the details of teachers' actions on pupils' learning, they are largely gathering isolated techniques that they like and might want to use themselves rather than using their observations to develop a more general theory of action in relation to teacher actions and their effect on learning.

Fine grained descriptive data about what is observable (but not what is not observable) in classrooms that can be used for later analysis and prediction and, finally, evaluation

One of the things we noted in the transcripts was the apparent levels of awareness of what the key elements of Learning Rounds practice were. Focusing on the instructional core was not an element of the practice that we saw a great deal of evidence of either in practice or in the understanding of Learning Rounds practice that participants explicitly articulated during the debriefs. The sole exception to this

was the comment from teacher AB quoted above. The requirement to use descriptive language, on the other hand, was the requirement most frequently explicitly referred to by participants. It occurred explicitly in the transcripts for schools A, B and D. However, it was rarely adhered to in practice. Throughout the transcripts there are frequent examples of evaluations of what has been seen. This is even after participants have agreed that language must be descriptive rather than evaluative.

The second requirement of generating descriptive data is that participants should only describe what is observable, not what they do not observe. For the most part this is the case in the transcript data. However in school C there are extended passages where discussion is about what was not seen. An example can be seen in the extract below.

CB: … I didn't see any target setting
CC: I've got nothing for that box

Line 8–9

Although the most extended examples of discussion of what was not there occurs in school C. There are also examples in School D.

A third requirement of generating data in the debrief is that description should be as fine grained as possible. In the last section we discussed School B and School D's apparent desire to report back summative data in positive terms rather than using it to inform a developed understanding of the relationship between particular teacher actions and their effects on pupils' learning. An important effect of this is that they begin to use increasingly broad and accommodating categories for their data in a way that reduces its value as fine grained evidence of what is happening in terms of the relationships in the instructional core. An example of this can be seen below from school D.

DC: We said that we saw plenty of challenge and extension for the pupils in most classes
DB: We had that in some
DA What did the other groups think?
DD: we had that for some… differentiation
DA: shall we say in some classes we saw challenge and extension? Is differentiation not different from challenge and extension?
DD: We I think differentiation and extension are the same thing, just opposite ends of the scale or extension is differentiation
DH: meeting their needs
DB: Differentiation appropriate to the learning?
DD: But again you have to be careful not to put it in a negative way not to … it wasn't that they you can't say that some …classes at the beginning weren't into it wasn't that they weren't challenging them they were just setting the scene
DB: but this is just like a snapshot
DA: So maybe what we should be saying is in…. most or all challenge and extension, differentiation where needed?

DA: Could we take out the differentiation part and say in most classes we saw differentiation by outcome?
DG: I think if I was … some classes where a whole class approach to things at which point if all the class is on the same task then you've still got the challenge in that task with a varied outcome, it can be differentiated by outcome which we saw in the whole class approach, the differentiation was there even if it wasn't different pupils doing different activities in different task it was differentiation by outcome so I would have said I saw differentiation in most classes

Lines 79–101

In this extract the teacher strategies of 'challenge and extension' and 'differentiation' become fused and progressively broadened so that, by the end of the extract, almost anything can count as challenge, extension and differentiation. This is not an isolated process. It can be found in other places in the school D transcript and also appears in school B.

For the most part the data from schools B and D discusses what happens in classrooms in molar units rather than fine gained descriptions of the specific actions of teachers and learners and the link between them. This means that the observations were talked about in terms of pupils and teachers engaging in, for example, peer assessment or self assessment. There is very little record of what specific actions teachers performed and the specific effects these had on pupil activity. This is exacerbated by the tendency of participants in Schools B and D to create ever more encompassing categories for these activities. This meant that the participants lost the chance to consider how different specific ways of implementing the general category of peer assessment or self assessment, for example, affected what pupils did and what they learned. It also played little part in challenging what was already regarded as good practice by looking at the actual effects it had on what pupils were doing. This has implications for a developing theory of practice which are discussed in a later subsection.

School A's discussion shows more signs of moving towards fine grained description in which, rather than talking in molar units like school B and D, teachers discuss the specific actions of specific teachers and pupils. This can be seen in the extracts that were discussed earlier in relation to the instructional core (lines 109–116 and 116–118).

A similar tendency towards more discrimination and fine grained data can be found in the school A extract below where the discussion is about approaches to differentiation.

AE: I saw a real range as well there was one particular class where there was differentiation of LIs so the groups were differentiated in terms of their learning intentions and different groups working on different tasks. I then saw specific LI, the same SC as well—the whole class working on that and the only differentiation I saw was really the teacher and the auxiliary targeting support for specific pupils during that, I also saw the same tasks throughout the lesson but there was a system where they had to rotate and there weren't, for me, maybe it was timing that I came in at I didn't see the LIs specifically for the task but I questioned, I

grilled pupils what it was they'd been asked to do and they explained to me what they'd been asked to do it was clear to me what they'd been asked to do, within their own level they'd been challenged to take it to another level, now the children would have to have an implicit and inherent understanding of what that next level was because that hadn't from my point of view been demonstrated

Lines 194–204

In this extract AE also generates data at the level of individual pupils by "grilling" them and begins to distinguish between the effects of different ways of differentiating. Again, this contrasts with schools B and D in which discussion focuses on the molar unit of differentiation (i.e. whether differentiation happened or not) and wide differences in approach to differentiation are elided in the construction of increasingly broad categories for reporting back.

Schools B and D's tendency to focus on teacher behaviours, discuss data in molar units and construct increasingly inclusive categories for these, can link to premature evaluation on the basis of insufficient evidence that the proponents of Instructional Rounds warn about. There is some evidence in the transcript data from schools B and D that using, for example, peer assessment was considered to be good practice so where it happens this can be evaluated positively. What this does not do is generate any fine grained evidence on whether peer assessment is having a positive effect on these pupils in this classroom and how variation in how it is done has different effects. In other words, there is no clear evidence in the data the school discusses for assuming that peer assessment is a good strategy.

Like school A, school C (in the extract below) also begins to discuss assessment for learning in the classroom in relatively fine grained ways that looks at the impact of specific actions on pupils' learning. However, school C does not use these data to inform a broader understanding of cause and effect in teaching and learning but rather sticks to discussing isolated examples of practice that they like.

CC: I liked how A specifically showed examples you guys wouldn't have seen it but before the task started he gave them the task of like explaining, convincing him why their bit was the best and he gave two arguments like this is a good argument so he had a kind of example like my bit's the best because it has a metaphor in it and then the next one was this is a better argument and he put that on the board and he was like my bit's the best because it has a metaphor and then explaining what a metaphor is so the kids could see, if I write that it's fine (inaudible)

CE: I would agree with L because just going back to your point where it was the you know the comparison and the two answers, for me A went a lot deeper and was actually exploring their thinking skills as well in the comparison of the two answers

CA: I definitely agree with that I thought the questions were designed to encourage them to use their imagination and to encourage them to think and some of the students I felt could express that very well, some of them could express it

less well but all the students who were giving answers it seemed to me had gone through that process, they had thought about it

Lines 196–208

A wider strategy for improvement that is linked to the problem of practice and the observations

As commented above, transcript data from post-observation debriefs meetings cannot necessarily make visible all the work and thinking that might have gone on in relation to these Learning Rounds. It can however reveal the salience of this work in the post-observation debrief. This is significant because it is the post-observation debrief that is the key site in the process for generating understanding and planning the next steps in improvement. As noted before, the use of an agreed focus for the observations and the debrief discussion shows that these Learning Rounds were linked to a wider strategy for improvement, in this case the greater use of certain strategies that were considered to be good practice and that the school wanted to encourage further in the classroom. However, the relative lack of focus on the instructional core and the tendency to use molar units rather than fine grained description means that the transcripts show little evidence of the observations informing, revising or improving this wider strategy. So whereas the focus for the observations might be informed by the wider strategy, the observations and debrief do not close the loop by informing an enhanced understanding of the strategy and how it needs to be implemented beyond an implementation/audit approach.

School A shows more possibility of the link being two directional. They begin to explore the links between some specific details of how teachers implement preferred strategies such as sharing learning intentions and differentiation and the effects these have on pupils. This means that they have the possibility of revising their strategy for improvement on the basis of the new insights they gain from their data. However, in practice, school A reverts to the audit approach of recording the frequency with which certain strategies were seen rather than capturing this developing insight collectively for wider use.

School C's focus on individual teachers collecting individual examples of techniques they like, similarly, will not feed into a school or local authority wide strategy for improvement.

A developing theory of action about how different actions affect outcomes

For the reasons discussed in the last two sections, there is limited evidence in the transcript data that the observations and debrief are used for theory building. Schools B and D focus on auditing the frequency with which prescribed 'good practice' is being used without focusing on the effects of what teachers are doing and how variations in that alter the effects. In School C the participants are picking up classroom techniques that they might choose to use themselves but these insights are not integrated into any developing theory of teaching and learning in the classroom. In school A, there is evidence that detailed consideration of different

approaches to implementing what is considered to be good practice could refine a theory of how particular teachers actions affects what and how pupils learn. However, by the end of this transcript, these fledgling insights have not been captured collectively.

Obviously a small sample of data such as that reported here cannot claim with any confidence to be representative of practice across the whole of Scotland. Conversely, we have no particular reason to believe the sample is unrepresentative as we tried to avoid selecting schools that are more likely to have a shared culture and history in relation to Learning Rounds.

Discussion

What does our discussion of Learning Rounds in Scotland have to say about the issues raised by the literature on PLCs reviewed in this paper?

Our data suggests a lack of clarity about what the intended 'product' (Allen 2013) of Learning Rounds was supposed to be. As we previously commented, much of it seemed to be audit activity. Therefore, the product would be teachers generating knowledge of whether other teachers were implementing existing prescriptions of practice. There was also some indication of teachers gathering isolated techniques or activities for themselves in school C. So the product would be an increased toolbox of techniques for individual participants. The lack of a clearly articulated problem of practice or theory of action left little affordance for teachers to generate a 'product' in terms of a new understanding of practice and this also limited the ability of teachers to move from individual learning to systemic learning. As Ellis et al. (2015) comment, theory is a form of knowledge that can have significance beyond a single context. Problems with developing a new understanding of practice were also exacerbated by the tendency in some groups to focus on teachers' activity in isolation rather than the effects of these actions on pupils so a theory of action could not be developed.

The absence of a problem of practice (rather than a focus for observation) also seemed to lead to what Nehring and Fitzsimons (2011) call a lack of 'press' and Allen (2013) calls (after Dewey) a 'genuine problem'. That is, it is not clear that the teachers had identified a deficiency or an area for improvement in practice that Learning Rounds was intended to address. So there seems to have been an expectation that learning would emerge from the process but it is not clear what that learning would be in relation to. This could also reflect Allen's (2013) observation that teachers can become more interested in the processes of PLCs than with their outcomes. So the outcome envisaged by teachers here may well just have been to carry out Learning Rounds rather than to either change culture or produce new knowledge.

In the teachers' discussions we saw several examples of uncertainty about the protocols of Learning Rounds, which we interpreted as indicating a lack of familiarity with underlying intentions of the protocols. This links to Watson's (2014) concerns about the pedagogisation of PLCs, in which complex ideas can be

reduced to oversimplified teachable procedures once again resulting in a focus on procedure rather than purpose.

These limitations make it unlikely that changes in practice, whether at individual or systemic level would be transformational. At best they would be reformation; either an alignment of individual practice more closely with prescribed norms or better technical means for achieving prescribed practices. Even the latter is in question given the limitations outlined above.

In terms of cultural reformation or transformation, it seems that the audit culture would at best produce a limited form of reformation. In this case the deprivatisation of practice would tend to be to ensure that individual teachers were following prescribed practices and adopted a mandated vision of education. A more extensive reformation would be the development of a robust professional culture that was comfortable with a detailed interrogation and evaluation of teachers' practices (even if only for the limited purposes of more efficiently implementing mandated practices). However, the concern with ensuring that recording of observations was anodyne suggests that the social culture of the teachers dominated and became an obstacle rather than an affordance for the development of a more robust professional culture. Concern with the social culture and apparent lack of confidence in a sufficiently robust professional culture led to progressive vagueness in terms of what had been observed and this, therefore, closed down rather than opened up opportunities for learning. It led to a 'reification' rather than interruption of the existing language of practice as it exacerbated the tendency of 'discursive categories', 'shorthand terminology' and 'condensed narratives' to be an impediment to rather than a resource for learning.

Similarly, the lack of a clearly articulated problem of practice or theory of action meant that the observations or experiences of different teachers could not be used to develop a coherent alternative theory of action to the one implied by prescribed practice. To be able to do this would be to strengthen teachers' collective position as generators of educational knowledge not just users of it. This would be one element of a transformed, rather than simply a reformed, culture.

The limitations we identified in the practice and outcomes of Learning Rounds in the four schools we studied were similar, even though the schools were at different levels of experience with the practice. While it is the case that the Instructional Rounds literature (Roberts 2012) and the wider PLC literature (Grossman et al. 2001; Dufour 2004, 2008; Stoll et al. 2006; Dooner et al. 2008; Leclerc et al. 2012) identifies that collaborative activity of this kind goes through developmental stages, development seems to have stalled here. We believe this is attributable to several factors. Firstly, the lack of familiarity with underlying principles made it difficult for teachers to evaluate the effectiveness of their current practice and to refine practices in principled ways. Secondly, uncertainty about the expected 'product' also made evaluation of success difficult. Thirdly, the model for propagating Learning Rounds in Scotland did not provide for ongoing support once the initial training had taken place. In some cases there was no initial training as schools picked up the practice from one another. This meant that appropriate support could not be given to move practice forward.

In the examples here, community seems to have led to a reaffirmation of existing views or an unwillingness to challenge views. As previously commented, a certain amount of effort was expended on ensuring that no-one would be offended by the ways that observations were recorded. The lack of external input into the Learning Rounds through the use of wider educational research and theory (in this case research in assessment for learning) also made the community too closed with no external source of alternative interpretations or views evident. For example, knowledge of the academic literature that is critical of some assessment for learning practices would have been an affordance for teachers to be more critical and discriminating in their observations of classroom practice. This point also relates to Stickney's (2015) argument that teachers rarely get the opportunity to critically reflect on the research underpinning prescribed practice.

Conclusion

So what are the implications of what we found about Scotland's form of PLC for the development of all forms of PLCs for educational change, internationally?

Firstly, problems of practice (in Instructional Rounds terms) need to be clearly articulated to assist in clearly identifying what the intended outcome for PLC activity is beyond just establishing the activity in itself.

Transformational change in practice is enabled by an explicit articulation of (using the Instructional Rounds formulation) a theory of action. Generally, this means that teachers need to explicitly articulate the assumptions they are making about cause and effect in the classroom and use their observations to test, refine (or discard) these. Leaving theories of action implicit reifies mandated practice. Theories of practice are also a valuable affordance for moving beyond individual learning to systemic learning as they allow new insights about practice to be captured and disseminated. In this regard, they are valuable affordance for transformative change in relationships and cultures as they enable teachers to become producers of pedagogical knowledge not just consumers or implementers.

In testing and challenging or refining these theories of practice, fine grained observations are essential to interrupting existing theories and discourses of practice rather than reifying them, so developmental efforts should be put into supporting teachers to do this. The lack of fine grained observational data can lead to the discussion of practice in terms of existing molar categories without questioning what these mean.

Attempts to help teachers develop PLCs need to focus on the underlying rationale for protocols and practices, not just on the protocols and practices themselves. Among other things, this will allow teachers to evaluate the success of their PLCs and modify or develop practice if necessary. Teachers should feel empowered to critically scrutinize and modify protocols and practices rather than seeing them as reified and this scrutiny should be built in as an integral part of the PLC activity. This kind of ownership is potentially a transformational change in the (often currently existing) relationship between teachers and PLCs so that teachers own the

process and reflect on its value for them rather than the practice being a form of 'professional makeover'.

Finally we need to acknowledge that social community can close down rather than open up opportunities for learning and this needs to be explicitly addressed.

This paper started by identifying a distinction between two types of change: reformation and transformation. If we want PLCs to contribute to transformational change we need to widen their 'horizon of observation' in several ways. The widened horizon needs to take in a clear understanding and articulation of the assumptions that underpin current practice so that these assumptions can also become objects of scrutiny. As Stickney (2015) argues, teachers are rarely given the research foundations for educational reform and, therefore, cannot exercise critical evaluation of the evidence. This clear articulation will also allow for PLCs to contribute to developing educational theory and not just to implementation, thereby challenging the neo-liberal separation of Education policy from implementation (Codd 2005). The widened horizon also needs to acknowledge that many decisions about educational practice are quite properly based on values as much as evidence, so these are also legitimate objects of scrutiny and discussion. They should not become occluded by focusing only on measurable evidence within a single paradigm.

Widening the horizon will also include welcoming differing perspectives and opportunities for disagreement as these can be productive. These differing perspectives could come from different types of participants. Differing perspectives acknowledge that different paradigms are important rather than normalising one paradigm through a focus on gathering evidence. This is also the area where it might be necessary to pay explicit attention to developing participants' abilities to manage disagreements comfortably and productively.

Finally, the widened horizon also needs to include an understanding of the principles and purposes underpinning PLCs and scrutiny of how effectively these are being achieved in practice so that teachers can develop practices if necessary. In short teachers need to own these processes through understanding them rather than having them reified and imposed upon them through pedagogisation.

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