Conquering the Professional Learning Network labyrinth: what is required from the networked school leader?

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Introduction

Increasingly, policy makers, school and school system leaders are turning to Professional Learning Networks (PLNs) as a means to achieve bottom-up educational improvement at scale ([removed for peer review]). Although networks of teachers, and others, collaborating to improve aspects of teaching and learning, before mobilising new practices and ideas amongst their colleagues, seems an intuitively promising approach, there is no guarantee PLNs will lead to positive impacts either for teachers or for students. Further insight is therefore required to help maximise the likelihood that investing in networked approaches to school improvement will be successful. This theoretical paper draws on extant literature to provide a conceptual exploration of one key factor thought vital to the success of PLNs: the role of school leaders in creating a two way like between PLNs and schools. The paper begins by drawing on Bauman's (2012) notion of *liquid modernity* to ground the emergence of education networks within wider trends affecting society. After discussing educational

networks and, in particular, the emergence of PLNs, the paper then explores the role of school leaders in maximising the benefits of networked ways of working for their school. Settling on three vital network leadership functions of *formalising*, *prioritising and mobilizing* PLN engagement, the paper concludes by summarizing some key lessons for educationalists seeking to maximise the impact of PLNs for schools and the school system more widely.

The context for education networks

In his seminal book *Liquid Modernity*, Zygmunt Bauman argues that the challenges of the modern age, both in terms of their sources and their impacts, are global in nature. This means the institutions and governments of individual countries are inadequate: alone they cannot hope to make meaningful or productive inroads into the complex problems we currently face. Such problems include human led climate change, the general degradation of the environment and the depletion of the Earth's natural resources, poverty and the huge disparities apparent in the distribution of wealth (Bauman, 2012). At the same time Bauman notes that being 'modern' means being subject to constant change and the continuous replacement of the old with the new: 'change is *the only* permanence, and uncertainty *the only* certainty' (2012: viii: italics in original). The aim and expectation of this change is the continual pursuit of improvement. To achieve improvement, structures and systems are regularly dismantled and replaced with new ways of working in order to secure better results. Particular casualties of this process in recent years, notes Bauman, have been the social institutions that have typically provided social cohesion: specific layers of government, the trade unions, the church, and universal services such as health. In their place stand deregulation, privatisation and the onus on individual agency over

collective approaches; albeit with the expectation that individuals should use their agency to learn from the best practices of others (Bauman, 2012). It is clear, however, that what is and what can be learned by individuals is enabled or constrained by the networks we are immersed in. Strong networks between individuals therefore lead to more potent opportunities to learn. Networks also provide an avenue through which collaborative coordinated action can be pursued.

Networks in education

Education - here broadly defined[i] as the collection of institutions (ministries of education, local educational authorities, teacher training institutions, schools, colleges, universities, etc.) whose primary role is to provide education to children and young people - has also been affected by these more general societal trends (Hargreaves and Shirley, 2009). A network in 'education' is generally considered to represent a 'group or system of interconnected people and organizations whose aims and purposes include the improvement of learning and aspects of well-being known to affect learning' (Hadfield, *et al.,* 2006: 5). The emergence of networks within education has, on one hand, been driven by the interconnected and pervasive nature of issues facing education (Dı´az-Gibson *et al.,* 2017). Examples of such issues include: providing effective schooling in an age of austerity, which puts pressures on the staff, resource and infrastructure that can be afforded ([removed for peer review]); ensuring all children realise their potential and are effectively supported to enter society as competent, responsible citizens, irrespective of background and situation (Arkhipenka *et al.,* 2018); preparing the students of today to be the workforce of tomorrow, when the nature of the work they will be doing and the skills required to do it are uncertain (*ibid*); likewise is the need to ensure teachers have the skills and knowledge to adapt

to fast changing social and economic related educational imperatives (de Vries and Prenger, 2018). The focus of this paper is networks as centred around schools. With this in mind, as with Bauman's notion of the *liquid* modern age, the nature of these issues means that tackling them effectively is often too great a challenge for individual schools to undertake by themselves (Stoll, 2010). Schools therefore need to be working smarter together, and with other partners, rather than harder alone, to both learn with and support one another (*ibid*).

Simultaneously, changes to educational structures have seen the dismantling of old ways of working and the introduction of new approaches with an individualized focus. Although this is occurring in education systems world-wide, England, which has experienced a recent and sharp decline in the support role offered to schools from both the top and middle tiers of government, provides an exemplar case of such trends (Armstrong, 2015; Greany, 2017). In particular, central government policy makers in England, have now devolved multiple decision-making powers and resources to schools. Included in this process of devolution is the responsibility for teacher professional development, in the belief that this will improve quality and increase innovation. To support schools in making best use of their newly found autonomy, the 2010 Education White Paper *The Importance of Teaching* espoused a newly found faith in inter-school collaborative networks. The commitment established in *The Importance of Teaching* has been described elsewhere as the move towards a 'self-improving school system' (Greany, 2017). The characteristics of 'self-improvement' include that individual schools now have greater responsibility for their own improvement; that teachers and schools are expected to learn from each other so that effective practice spreads; and that schools and school leaders should extend their

reach to support other schools in improving (*ibid*). Successful self-improvement thus depends on the existence of strong networks, which foster learning and the sharing of effective practice. At the same time, it has been suggested that the realization of self-improvement will emerge from establishing a 'culture of professional reflection, enquiry and learning within and across schools, [centred] on teaching and student learning' (Gilbert, 2017: 6). In light of this it is worth reflecting that networks are also viewed as instrumental to how teachers can and should develop professionally. To actualise their development, teachers need to learn, which involves effective collaboration with others (*ibid*). But since the school as a unit has become too small in scale and too isolated in nature to provide rich professional learning environment for teachers, successful professional learning activities will typically involve three key principals: teachers collaborating between schools; teachers collaborating over time; and teachers collaborating with external partners (Stoll *et al,* 2012). Thus, achieving the learning culture required by the notion of self-improvement requires networks of teachers who come together (with other key partners) to learn and to share this learning with others. Since not every teacher in a school can collaboratively learn with every other teacher in a network of other schools, the most efficient formation of networks will comprise small numbers of teachers who learn on behalf of others. Therefore, while described as the self-improving *school* system, the process of improvement leading to system level change must necessarily come from small numbers of networked teachers (along with other stakeholders) engaged with addressing key issues of teaching and learning and able to lead processes of knowledge mobilization and change within their school.

Professional Learning Networks

It is this recognition that networks and networking operates most effectively at the level of the teacher that has seen a growing number of educationalists turn their attention to PLNs as a way of improving education in schools and across school systems (Armstrong, 2015). PLNs are defined by [removed for peer review] (2018: 1) as 'any group who engage in collaborative learning with others outside of their everyday community of practice, in order to improve teaching and learning in their school(s) and/or the school system more widely'. [removed for peer review]'s (2018) definition illustrates that PLNs are focused on driving improvements to teaching and learning. PLNs will achieve this through building capacity, which is defined as 'the power to engage in and sustain learning of all people at all levels of the educational system' (Stoll, 2010: 470). Capacity is built first by helping PLN participants to create and share knowledge about specific educational problems as well as innovate (i.e. develop novel responses to these problem). Capacity is also built as PLN participants broker new knowledge and/or innovations to colleagues within their home schools (Hubers, 2016). Such capacity building should not be considered sustainable however until it results in lasting school wide changes in school policy and practice (Hubers, 2016); with these changes resulting in measurably positive outcomes (Hubers and Poortman, 2018). Additionally, all educators with links to a network should also display 'agency'. This means that teachers in schools engaged in PLN activity do more than just make lasting changes in their behavior; they should actively try to innovate their practices in an ongoing way (Hubers and Poortman, 2018). To ensure PLNs are effective, i.e. result in sustained and positive changes in teaching, learning and student outcomes, a number of conditions relating to their nature and functioning need to be met. One of these, the one the most important: effective leadership, is explored in more detail below.

The PLN Labyrinth

To conceive of the nature of the problems faced in the modern fluid age, our preferred trope or visual prop, is that of the labyrinth. The Argentinean writer, Jorges Broges employs the metaphor of the labyrinth extensively in his writing (e.g. 1998; 2000; 2004). Often Borges uses the concept to represent a struggle to be overcome, or as an analogy for those who have lost their way. Sometimes the writing is from the perspective of the Minotaur itself (e.g. *The House of Asterion*): here Borges' parables serve to present something potentially problematic from a new angle, thereby enhancing our understanding of how to tackle the specific difficulties we might face. What is useful about Borges' parables is that they serve to shift our perspectives, enabling us to understand labyrinths not just as things comprised of high walls, dead ends and potentially a lurking Minotaur, but as providing a metaphor for any complex challenge that an individual or organization might face. Using this metaphor also reveals that the best approach for negotiating any complex challenge will be a function of the various elements that comprise that problem and so contribute to its complex nature. When labyrinths consist solely of opaque walls, then a map and a good sense of direction is all that is needed. But if the labyrinthine problem is made up of procedural obstacles or relational elements, or formed from more hard to attaint requirements, such as the means through which to facilitate and mobilize change, then different sets of knowledge, tools and strategies will be required. What's more if the nature of these problems alter as a result of contextual or organizational factors, then what is needed to tackle them will necessarily alter as well.

Reconceptualising labyrinths away from being solid mazes towards representing more fluid problems means we can consider them both emblematic and symptomatic of Bauman's *liquid* modern age. They are *emblematic* because labyrinths typically serve to signify a problem often left to individuals to solve, but, given their nature, which would be more effectively solved via collaborative endeavors. Moreover since tackling labyrinths is likely to bear fruit at a collective level, they are simply too important to be left to individuals to try and address. This new perspective on labyrinths is *symptomatic* of the liquid modern age because labyrinths should no longer be conceived as something simple and solid (i.e. that represent problems that are both singular in nature and unchanging, meaning that once the basic nature of any labyrinth is ascertained, it can be 'solved' for good). Rather, drawing on Bauman's phraseology, a *liquid* labyrinth is one that represents a problem both consisting of multiple elements whilst also situated in the flux of constant change. This implies that the constituent parts comprising the labyrinth can change, indicating that the nature of each labyrinth and how it might best be addressed shifts over time. To paraphrase Bauman (2012: 139), this means that turning one corner correctly now is not a warranty that this will be the correct turn to take in the future. With Professional Learning Networks, the current labyrinth facing us is how to ensure individual teachers can engage in networks in a way that makes a difference at the level of the school. As a liquid labyrinth, this challenge is both complex and multifaceted in nature. On first glance the nature of the problem is deceptively simple: if networked learning amongst small numbers of teachers is to benefit teaching and learning in schools more generally, then what is required is a two-way link between the work of the PLN and the general day to day teaching practice that occurs. But when examining what a meaningful two-way link might entail it can be seen that it will

necessarily be comprised of two key elements: first, to maximise the benefits of being part of a learning network, PLN participants will need to engage effectively in networked learning activity. Second, teachers (and other relevant staff) within the wider community of practice involved will need to know about, engage with, apply, and continue to improve the products and outputs of the PLN, ultimately with the aim of improving student outcomes. So who is best placed to tackle this labyrinth?

The role of leadership in relation to PLNs

While it is most likely teachers that engage in networked learning activity, it is school leaders that need to support them in doing so, and thus the actions of school leaders are key to the impact of PLNs being maximized. School leaders have a substantive role in improving outcomes for children and young people (e.g. Robinson *et al.,* 2009). In fact, in terms of *within-school* factors, their impact is second only to teachers (Leithwood and Louis, 2012). School leaders are able to make a difference to teaching and learning though what are known as first and second order effects. To begin with, school leaders can target first order variables. For instance, instructional leadership can be used to improve the quality of teaching and the nature of the curriculum that is delivered to students in the classroom (Tulowitzki and Pietsch, 2018). School leaders are also able to generate second order effects. Transformational leadership, for example, can be used to increase the commitment of others in the school in relation to specific first-order effects on learning (*ibid*). This means school leaders are thus best placed to instigate and coordinate the actions required to conquer the PLN labyrinth outlined above because they can aim specific first and second order effects towards making meaningful two-way links between network and school.

Coupling external focus with a desire to do the best for every student

To get the most from engaging with PLNs, school leaders must first understand their role as instructional leaders and the impact this role can have. It is worth recalling the work of Robinson (e.g. Robinson *et al.,* 2009) where it is demonstrated that it is instructional leadership approaches which result in the most substantial benefits for student outcomes. In particular Robinson *et al.,* (2009) suggest that the act of school leadership with the biggest single impact is 'promoting and participating in teacher learning and development', which they indicate has an effect size of 0.84. This is double the effect size of the next highest impactful action: 'planning, coordinating and evaluating teaching and the curriculum' (ES 0.42), or indeed of the effect size of more transformational approaches (detailed below). This link between student achievement and the active participation of school leaders in the professional learning and development of their staff leads Robinson *et al.* (2009: 201) *to* conclude that: '[the] more leaders focus their relationships, their work and their learning on the core business of teaching and learning the greater their influence on student outcomes'. This means, therefore, that a school leader's main focus and responsibility should be promoting better outcomes for students, emphasising the importance of teaching and learning and enhancing teacher quality (Day and Sammons, 2013). Transformational aspects of leadership: e.g. establishing goals and expectations (which Robinson *et al.,* 2009 suggest has an effect size of 0.35); or, providing the necessary resource and structures, e.g. time and space to support a given way of working (ES 0.34), should thus be employed in pursuit of specific instructional goals or the introduction of new ones. The other more managerial aspects of running a school are not, therefore, what makes the difference, and school leaders should spend less time and effort should on these!

As well as having an instructional focus, school leaders must also lead ethically, with a commitment to social justice and doing the best for each child. As Day and Sammons (2012) note, if leaders are to be considered successful, they should be promoting both academic and social outcomes for all students. Here Day and Sammons (2013: 4) suggest social outcomes should be considered as including integrity, compassion and fairness, students possessing a love of lifelong learning and schools fostering citizenship as well as personal, economic and social capabilities. An underpinning assumption for the work presented here, therefore, is that both teachers and school leaders have, as their driving purpose, a desire to support all children and young people to be the best they can be; with the notion of 'being the best' considered to have a wide and socially just basis.

But an ethical instructional approach is just one prerequisite for schools to engage effectively with PLNs. Before thinking about how to tackle the labyrinth we have to recognise that school leaders must want to enter it in the first place. In other words, school leaders must want to reach out beyond the boundaries of their schools and wish for their teachers to engage in collaborative endeavors with others (Armstrong, 2015). As Azorín (2018: presentation slides) notes 'the schools we want today are not institutions that sit behind their railings, but rather organisations that are prepared to boldly open up and work in collaborative networks with their neighbours and other allies'. This is not always an easy task, when schools are facing demands of ever higher levels of achievement coupled with an intolerance of failure (Muijs *et al.,* 2010); which often means the natural inclination of school leaders is to focus onwards and to 'put one's own house in order' first. Indeed effective engagement with PLNs

requires school leaders to adopt an external focus and to couple their desire to do the best for their students and their understanding of their role as instructional leaders, with a recognition that instructional ethical leadership can often best be served through collaborative work. Coupling an external focus with their moral driver for their students results in school leaders needing to:

- Sign up to the common purposes of the network and the focus area of networked activity ([removed for peer review], 2018; Muijs, 2015). As Hubers and Poortman (2018) note, a shared sense of purpose among the individual PLN members in relation to the specific goals of the PLN is key. Although members do not have to have homogenous goals for participating in the PLN (as goals can vary due to individual learning goals, vision on education, and so forth), the more these goals are aligned and PLN members agree on the reasons why they are working in this group, the easier it will be to meet everyone's expectations.

- Understanding that change through networks requires time to come to fruition. Time is a scarce commodity in the liquid modern world and scarcer still in education systems now dominated by short term rather than long term success. As Bauman (2012) notes, these days practitioners are more often than not looking at the next few moves ahead rather than progress to a long-term attainable goal; especially if they perceive they will not be in post in the longer term (Robinson *et al.,* 2009).

– Recognize that, to ensure the successful ongoing operation of the network, common resources might need to be established (e.g. new resource generated or existing resourced transferred) and that this resource will need to be maintained over the mid to long term (Gilbert, 2017; Hubers and Poortman, 2018). At the same time, any transfer of committed resource must not impact negatively on the internal functioning of the schools involved.

– Acknowledge a moral obligation towards, and an acceptance of collective responsibility for the outcomes of all children in all schools within the network (Boylan, 2018; Gilbert, 2017). In other words, schools engage in networks to gain in terms of their teachers' learning but should also be supporting teachers in other schools with their own learning requirements. PLN activity can also, of course, represent an extension of a school leaders' moral purpose, enabling them to carry their values and vision beyond the school gates (Boylan, 2018).

– Finally, it is argued by Dı́az-Gibson *et al.,* (2017: 1044) that 'networked leadership is considered to be a different type of nonhierarchical leadership, where information and expertise substitutes for an authority structure through a self-organizing process, held together by mutual obligation that develops over time by reaching consensus-based decisions'. Since network leaders and participants will not necessarily also be formal leaders, school leaders are required to recognize that distributed leadership needs to be supported to flourish (Azorin *et al.,* 2019; Dimmock, 2019). This means that PLN participants are supported to engage in networked activity and to lead change within their own school (this is described in more detail below). This

represents a stark contrast to many schools where the impetus for change and

the introduction of new ideas often from the school leader themselves

(Finnigan, *et al.,* 2013).

Once prepared to engage in networked forms of learning, to ensure that it leads to

positive impacts for their schools, school leaders must then engage in specific

instructional and transformational approaches designed to negotiate the key aspects

that make up the PLN labyrinth as it currently stands. This raises two key questions

and we examine them now by exploring in detail both what constitutes the labyrinth

school leaders need to negotiate, and the approaches school leaders have at their

disposal to do so.

Formalization, Prioritization and mobilisation

The elements currently comprising the labyrinth can be thought of in terms of issues

relating to the *formalization, prioritization* and *mobilisation* of PLN activity

([removed for peer review]). The labyrinth involves the three aspects of formalisation,

prioritisation and mobilisation because the interplay between network and school is an

exemplar of what Kotter describes as *the dual system*. As Kotter notes, 'in truly,

reliable, efficient, agile and fast enterprises, the network meshes with the more

traditional structure... it is not a super task force that reports to some levels in the

hierarchy… it is seamlessly connected and coordinated with the hierarchy...' (2014:

20). A seamless meshing will also require a shared leadership approach, since PLN

participants will require autonomy and freedom to innovate and scale-up the use of

innovations (Ainscow, 2014; Tulowitzki and Pietsch, 2018). As such, PLN activity

must be something that is both recognised within the school as important and treated

as important. Furthermore, the learning and practice development emerging from networked learning activity must be mobilised effectively so that staff within the school benefit. We now explore each element of the labyrinth: formalization, prioritization and mobilisation, in more detail; a graphical depiction of the PLN labyrinth, meanwhile is provided in Figure 1, below.

Formalization

Teachers and schools face a myriad of competing priorities. Often these priorities can also appear to be in tension; for instance, schools need to meet both the needs of parents and local stakeholders, whilst also meeting centrally prescribed targets and requirements. Likewise, schools need to close attainment gaps, while at the same time pushing the brightest and the best (Greany and Earley, 2018). In the face of these, it is school leaders who are responsible for direction setting: deciding on the activities that should be focused on and signaling these to ensure common understanding (Day and Sammons, 2013). Similarly, school leaders need to make best use of available resources to ensure the goals they decide upon are achieved (Dimmock, 2019). In this light, the notion of *formalisation* relates to the need for school leaders to cement their school's and teachers' participation in the PLN by ensuring that: 1) the activity of the PLN corresponds to the improvement priorities and vision for the school; and 2) PLN participation remains a key focus of the school, and that its importance is recognized by all (Wiggins, *et al.,* 2019). Recent work (e.g. [removed for peer review]) suggests that when PLN activity is not formalized there exists the danger that it is more likely to be sidelined by other improvement initiatives that are listed and monitored by senior leaders and the governing body. Similarly, that non-formalised PLN activity is

likely to feel more of a 'bolt on' by participants rather than something integral to their role.

Typically, formalizing PLN engagement involves incorporating it into existing policies and procedure. For instance, by integrating networked learning activity within the school improvement plan or an aspect of participants' performance targets as a clear delivery vehicle for change (e.g. Dowling, 2016). Furthermore, this approach can be usefully accompanied by school leaders also engaging with school governors; with governors meetings subsequently providing a forum for monitoring progress. Including PLN activity as part of participants' performance management targets creates a high-performance expectation (Day and Sammons, 2013). In turn this can encourage teaching staff to self-organise to ensure the PLN remains top of mind. Conversely, the danger of including PLN activity in performance targets is that it might encourage participants to seek 'quick wins' rather than pursue inquiry led processes that, although are likely to result in more considered and beneficial outcomes, typically take longer and can sometimes lead to a range of approaches to teaching and learning being explored and discarded before concrete changes are fixed upon (Arkhipenka *et al.,* 2018). As such, if PLN activity is included within performance targets it needs to be accompanied by an expectation that networked learning represents a long term reflective endeavour that is being undertaken in order to meaningfully tackle pressing problems of teaching and learning. In other words, including PLN activity within targets should be about developing professional learning rather than accountability. It is noted by Day and Sammons (2013) that helping teaching staff develop and inspiring, amongst teachers, a shared sense of purpose, can enhance both their motivation and the quality of their work. An

alternative to including PLN activity within participants' performance management targets, therefore, is for school leaders to undertake a regular cycle of 'plan', 'do', 'review' in relation to the PLN and the corresponding activities that needed to be carried out as part of it. This approach thus ensures school leaders are kept abreast of the PLN and any actions required as part of it, and so helps avoid the danger of participants focusing on short term instrumental approaches (in which performance targets are be set and goals 'met') rather than engaging in a deep and in a considered way with the problem at hand.

Prioritization

Prioritising engagement in PLNs is about ensuring adequate resources exist to allow the work of the PLN to get done. While engaging in learning networks can be beneficial, for this to occur, school leaders must be prepared to provide opportunities for such engagement, and this requires the deliberate commitment of resources. For instance, a number of activities associated with teaching and learning typically form the mainstay of most teachers' work. In addition to teaching, these include: individual planning or preparation of lessons, marking/correcting of students' work, general administrative work, engaging with parents, running extra curricula activities and so on (see Department for Education, 2017: 8). These activities make up a full workload (and often more than) and attending to them means there is generally little *time* for teachers to do anything else such as engage in networked learning activity. A number of possible approaches to the prioritising of time emerge from the work of [removed for peer review]. These include freeing up time to engage in PLN activity by reallocating what had already been set aside for standard meetings, training and/or planning and preparation. A clear advantage of this approach was identified. Namely

if it is combined with participants having the freedom to identify required actions and to undertake tasks/implement new ways of working accordingly (see below), it can provide a strong basis for PLN participants to engage in distributed forms of instructional leadership (Azorin *et al.,* 2019).

Schools may be required to provide financial support to ensure the ongoing operation of the network. Robinson *et al.'s,* (2009) work suggests that, in terms of within school effects, ensuring 'sustained funding for pedagogical priorities' has an effect size in terms of student outcomes of 0.31. Although this is unlikely to be comparable in terms of networked approaches to improving teaching and learning, it does highlight that funding matters: without funding PLNs are left to run simply on the good will of their participants. Finally, school leaders can prioritise by ensuring that both capacity (e.g. skills, knowledge, experiences) and the capital (e.g. social capital) of individuals and groups is understood and built if lacking (Daly, 2010; Day and Sammons, 2012). The aim of the former is to not only build the knowledge and skills that teachers need in order to accomplish specific goals in relation to PLN activity, but also the dispositions (commitment, capacity and resilience) to persist in applying these knowledge and skills (Day and Sammons, 2013; Muijs, 2015). In relation to PLNs, where the aim is to develop new approaches to teaching and learning, required knowledge and skills can include: 1) the pedagogic knowledge required to develop new approaches to teaching and learning, or to support others in the network to develop such approaches; 2) understanding how to engage in effective collaboration with peers from other schools; 3) an ability to engage in new forms of analysis (such as the ability to engage with research or numerical and qualitative data); and 4) understanding what is required for teachers to engage in knowledge mobilization and

change management (Wiggins *et al.,* 2019). This level of knowledge is substantial and a major critique of instructional leadership is that often school leaders will not be in possession of all of the knowledge required to lead learning effectively (e.g. Spillane *et al.,* 2010). As a result, school leaders, especially in larger schools, will need to understand and engage in distributed forms of instructional leadership (Azorin *et al.,* 2019).

Conceptions of distributed leadership are often based on the notions of distributed cognition and communities of practice (e.g. Wenger, 1998). Here it is assumed that knowledge is *stretched* across groups of individuals and artifacts (Spillane and Sherer, 2004). In other words, knowledge does not reside simply in one person but is embedded in the people, practices, objects and structures that comprise our environment, and is mediated through interactions between these. As such, the distributed perspective argues that instructional leadership should be stretched in the same way. This points to the need for the practice of instructional leadership to be recast as a coordinated decision-making process that enable the collective wisdom and expertise of an organization to be 'downloaded' from the environment and interactively engaged with. New knowledge and practices can then be 'uploaded' to the same environment, (again through a process of interaction). In this instance distributed leadership practice is not, therefore, simply the recognition that there can be many leaders in a setting (Spillane and Sherer, 2004): although clearly roles such as *professional learning leader* exist (Boylan, 2018). Rather, it is a practice in which instructional decisions are actively made in relation to a greater pool of information, on a greater ability to detect mistakes, and because the people, practices, objects and structures that make up the environment are involved in the instructional decision

making process, outcomes are more likely to be implemented (Spillane and Louis, 2002).
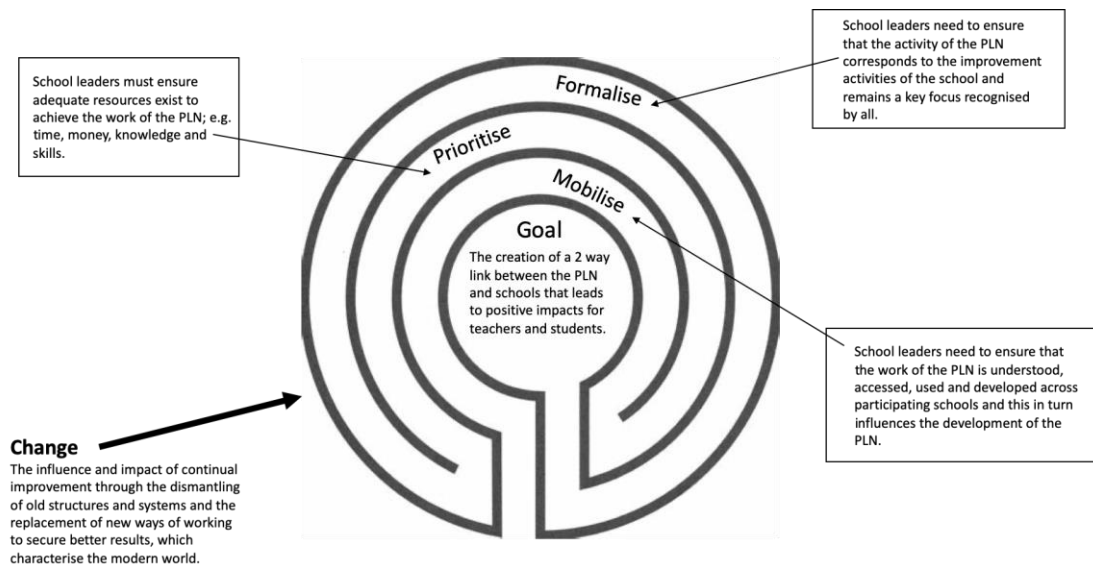
Mobilisation

The actualisation of distributed leadership is likely to require a sense of interdependence in terms of achieving success or goals (Warren-Little, 1990). Viewed in this way, distributed instructional leadership practice can be seen to represent a form of collective responsibility, intelligence and sense making, with leadership for school improvement emerging as an interactive process of influence designed to achieve organisational ends (Day and Sammons, 2013). The ready access to stretched knowledge made available by more formal types distributed leadership can ensure PLN participants are effectively supported in relation to the expertise they need in order to engage in and mobilise PLN activity. Such an approach also means that PLN participants can have a channel through which add to a school's pool of collective wisdom by acting as a source of expertise in relation to the focus area of the PLN. At the same time if the process of distributed leadership is one of negotiation, it is not guaranteed that innovations emerging from the PLN will be automatically accepted and so acted on by the wider school community. In other words, even in collaborative situations, those who are more influential will have more power over the decision-making process. Correspondingly, the ability of PLN participants to influence whether new practices successfully mobilised within their school will be dependent in part on their position within their school's social capital networks (Daly, 2010).

Furthermore, the ability of PLN participants to successfully introduce new ways of working will also depend on whether they have the ability to make change happen,

which requires PLN participants to be knowledgeable and skilled in the process of change management. This need is reflected by Stoll *et al.,* (2015), who observe that educators can often be frustrated in their attempts to roll out new practices and innovations to colleagues. In part, this frustration derives from a lack of understanding or even confidence in relation to leading change. But it also stems from the notion that people can often instinctively oppose change initiatives that are likely to disrupt current ways of getting things done. As Fullan argues, there is thus a need 'to understand change in order to lead it better' (2001: 34); with [removed for peer review] (2015) noting that governments internationally have taken this need seriously. Consequently, change management is frequently included in the leadership curricula prescribed by national or state level Departments of Education, or other similar bodies. For example, *leading improvement, innovation and change* is one of the *Australian Institute for Teaching and School Leadership*'s key professional practices for school leaders. Change leadership is also one of five competence areas for Norwegian school *rektors*. It is also suggested by [removed for peer review] that, as part of their work on an Economic and Social Research Council funded PLN knowledge transfer project, helping participants to understand and apply theories of change was fundamental to their success in being able to mobilising innovations across their schools.

Figure 1: a graphical depiction of the PLN labyrinth

School leaders must ensure adequate resources exist to achieve the work of the PLN; e.g. time, money, knowledge and skills.

School leaders need to ensure that the activity of the PLN corresponds to the improvement activities of the school and remains a key focus recognised by all.

Formalise

Prioritise

Mobilise

Goal
The creation of a 2 way link between the PLN and schools that leads to positive impacts for teachers and students.

School leaders need to ensure that the work of the PLN is understood, accessed, used and developed across participating schools and this in turn influences the development of the PLN.

Change
The influence and impact of continual improvement through the dismantling of old structures and systems and the replacement of new ways of working to secure better results, which characterise the modern world.

Moving forward

Conquering the PLN labyrinth is complex. The contribution of this paper, however, has been to outline some of the key areas school leaders need to consider if they are to successfully negotiate it. In addition, extant literature also suggests that that within the areas of formalization, prioritization and mobilization, there are also key lessons educationalists should heed to maximise the impact of PLNs for the schools involved. This paper finishes, therefore, by providing a brief outline of these:

- **Formalisation:** It is vital that networked activity is formally linked to the policies and process of the school. Doing so signals the importance of the work. Also that engaging in networks is not 'just another initiative', but something that is key to a school's culture and way of working. Approaches to formalising PLNs need to encompass the inclusion of network-related activity in school improvement plans and teachers' performance management targets. Also by ensuring that PLN engagement is on the radar of the school's governing body. At the same time, such signals need to be meaningful. There

is no point adding further tasks to a school improvement plan if there are already so many that the notion of something being a 'key' or 'vital' no longer has currency.

– **Prioritisation:** Ask any teacher around the world how they could best be supported to engage with a new initiative and, invariably, time will feature in their response. Teachers are overburdened and if we want them to do more of something, we need to ensure they can do less of something else. This seems to be especially true for schools in challenging circumstances where teachers can struggle simply to stay afloat. Often school leaders have the freedom to change structures within their school to free up time. For example, by 'shaving' time from lessons to create a free half-day once a week; by reallocating meeting or preparation, planning and assessment time; or through smart approaches to timetabling. Affording time to teachers will go a long way to helping them engage in PLNs effectively, but time also needs to be allocated to help teachers engage with their colleagues to ensure the mobilisation of activities can occur. This also means that processes within the school need should be used to facilitate PLN-related collaboration. For instance, timetables should reflect that the need for collaboration between particular groups of teachers.

– **Mobilisation:** Mobilisation is complex and teachers and school leaders still have much to learn in this area. Current literature provides some vital clues as to how mobilisation can be improved however. In particular, as well as enforcing the notion that passive dissemination is ineffectual, it suggests that

the most impactful forms of mobilisation involve school staff: 1) actually engaging with innovations; 2) collaboratively testing out how new practices can be used to improve teaching and learning, and; 3) continuing to use and refine new practices in an ongoing way [removed for peer review]. This is because supporting staff to actively engage and experiment with new practices helps them to develop as experts. In turn this means that the use of PLN-related innovations will be both refined and sustained over time, allowing students to benefit from their ongoing improvement. In addition, who is doing the mobilising matters, and ideally PLN participants should ideally be situated at the centre of their school networks meaning they have the power, the access and the ability to influence whether and how innovations are adopted by others.

Finally, as well as lessons for schools and school leaders, we believe there are potentially wider implications to the work we have presented here. At the beginning of this paper we argued that networks in education were representative of a wider societal shift towards networked forms of governance and improvement (Bauman, 2012; also see Castells, 2010 and Giddens, 1990). This shift, if it is to be successful, requires resilient and active networks, that are able to both support learning AND underpin the enactment of collaborative coordinated action to tackle pervasive issues. While this requires the effective leadership and coordination of networks themselves, it also has implications for the leaders of organisations connected to networks. Such leaders must not only embrace network engagement they must also create a two-way link between network and wider organization (i.e. they must find ways to conquer the network labyrinth(s) that now exist). We suggest, therefore, that while our approach

of formalisation, prioritisation and mobilisation has education and schools firmly in mind, and provides the basis for further empirical work in this area, it may have wider resonance for Bauman's (2012) liquid modern society more generally. In particular, we suggest that perhaps one way to address the social fragmentation evident from the shift to top down governance to networks (e.g. Arkhipenka *et al.,* 2018; Bauman, 2012; Castells, 2010; Dı́az-Gibson *et al.,* 2017; Giddens, 1990) is to find ways to use the triad of formalisation, prioritisation and mobilisation to help institutional leaders and their staff, across a range of settings and sectors, to reach out, to engage with and to support those around them.

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[i] See https://en.wikipedia.org/wiki/Education