Distributed leadership and digital collaborative learning: A synergistic relationship?

Alma Harris, Michelle Jones and Suria Baba

Alma Harris is a Director of the Institute of Educational Leadership, University of Malaya and Pro-Director Leadership at the Institute of Education. Michelle Jones is a Deputy Director of the Institute of Educational Leadership, University of Malaya. Suria Baba was formerly Deputy Director of the Institute of Educational Leadership and now holds a post at the Ministry of Education in Malaysia. Address for correspondence: Prof Alma Harris, Institute of Educational Leadership, Wisma R and D, Jalan Pantai Baru, Kuala Lumpur, Malaysia. Email: almaharris@um.edu.my

Abstract
This paper explores the synergy between distributed leadership and digital collaborative learning. It argues that distributed leadership offers an important theoretical lens for understanding and explaining how digital collaboration is best supported and led. Drawing upon evidence from two online educational platforms, the paper explores the challenges of leading and facilitating digital collaborative learning. The paper concludes that distributed leadership is integral to effective digital collaboration and is an important determinant of productive collaboration in a virtual environment.

Practitioner Notes
What is already known about this topic
• The establishment of digital platforms as a way of supporting professional learning is now ubiquitous, and this has underlined the need to explore and understand leadership in a virtual setting.
• In the digital world, inevitably leadership has to be shared or distributed, and this places particular challenges upon those leading in such environments.

What this paper adds
• A commentary on the practical challenges of leading and forming collaborative groups online.
• A reflection on issues of power and authority where leadership is “invisible.”
• The argument that technological competence is necessary but not sufficient for effective collaborative learning online and that collaborative skills are also needed to be explicitly taught and refined in the online environment.

Implications for practice and/or policy
• The implication for practice is the need for training and preparation in the use of the online platform for those leading or facilitating the collaborative learning prior to others joining.
• The implication for policymakers is that scaling up from the few users to the many, too quickly, could compromise the quality of the collaborative learning online.
Introduction
The age of the networked school has arrived. Unquestionably, the mass adoption of the Internet is driving cultural educational change at an unprecedented rate (Scmidt & Cohen, 2013). The digital revolution is set to change teaching and learning processes in significant and irreversible ways. A fundamental and radical change is taking place in schools and school systems across the globe as they respond to rapid advances in new technologies (Zhao, 2012). In this brave new technological world, schools have to respond to greater demands associated with student choice and personalization, along with the rapid expansion in the adoption and use of new technologies.

With rising connectivity, new pathways for learning are being created daily. Education is being reshaped and redefined with traditional approaches to teaching being changed and challenged (Fullan, 2013). It is clear that the “centre cannot hold,” and students stuck in school systems that teach a narrow curriculum or rely on rote memorization will increasingly be marginalized as others have access to “a virtual world that encourages more independent exploration and critical thinking” (Scmidt & Cohen, 2013, p. 23). The influence of future connectivity with access to pervasive digital knowledge and new online tools will disrupt, redefine and reposition what we currently understand as education and learning. With the rise of social media, it is clear that communication, learning and entertainment are now intrinsically linked and are increasingly dependent on connecting with others in the virtual world.

The theoretical perspectives that highlight the power of collaboration as a learning tool come from various disciplines. In the learning sciences, for example, social cognition and constructivist theories reinforce that learning is a social process where knowledge is an emergent property of interaction between networks of learners (Wenger, 2000). The constructivist view of the organization is connected to Vygotskian views of learning where knowledge is embodied in actions and interactions with others and the environment. This learning view presupposes that knowledge emerges as individuals work together towards a common goal (Borgatti & Foster, 2003). Constructivist organizational theory with its connections to learning and learning organizations also signals the potential of collaborative working to generate organizational change and improvement. Similarly, social capital theory explains why effective collaboration can plug gaps in knowledge or skills through drawing on the strengths of others and their organizations (Muisj, Ainscow, Chapman & West, 2011). In short, it is proposed that collaboration whether “face to face” or online is a potentially powerful form of learning.

The widespread use of online platforms and networks is fast becoming the medium where collaborative or interdependent learning takes place. Here, knowledge is shared across a virtual network that includes objects and people where the process of cognition is widely shared (Hollan, Hutchins & Kirsh, 2000). With online learning, knowledge and cognition are distributed across networks of people, and learning becomes a process of successfully navigating those connections (Pea, 1993). In the virtual world, learners’ individual sense-making processes are intrinsically affected by social sense making. The network is a critical source of collective and interdependent learning. It is a powerful platform not only for the exchange of ideas but also for co-construction and generating mutual understanding.

Essentially, the online medium is a filtering agent assisting educators and learners to engage with, and to make sense of, an increasing volume of information. New information creates a ripple effect across the network or platform thus altering the meaning of other nodes in the network. A new node of information results in new connections, which in turn, results in new knowledge and increased understanding on the part of the learner (Siemens & Tittenberger, 2009). Virtual learning embodies the separation of the place of learning from the source of the instruction or learning. The increased sophistication of digital technology and greater access to digital tools will eventually see virtual learning being a natural and fundamental part of future schooling.

© 2013 British Educational Research Association
Without question, schools and school systems around the world are increasingly under pressure to respond to powerful and relentless technological forces. As Schmidt and Cohen (2013, p. 5) argue, while communication technologies represent opportunities for cultural breakthroughs as well as technical ones “how we interact with others and how we view ourselves will continue to be influenced and driven by the online world around us.” Moreover, for students and their teachers working together online means having both a physical and virtual identity and inhabiting the physical and virtual world simultaneously. While there are no set answers to exactly what is required to meet the challenges of future technological change, it is clear that a greater degree of virtual collaboration between students and educators is one possibility, and some would argue, a pressing necessity.

This paper explores the issue of leading digital collaborative learning. It used distributed leadership as a theoretical lens to explore leadership in the virtual world. The paper draws upon the direct experience of contributing to the facilitation of two online portals specifically aimed at supporting teachers’ professional collaborative learning. The first portal, Professional Learning Communities Online (PLC Online), is a platform that has been developed to support virtual professional collaboration within and between schools (Harris & Jones, 2011). The second portal, Disciplined Collaboration and Evaluation of Professional Learning (DCEPL) portal, has been designed and developed by the Australian Institute for Teaching and School Leadership (AITSL) to support the “disciplined collaborative” project designed and led by two of the authors of this paper (Harris & Jones, 2011). Both digital platforms are intended to support collaborative learning among teachers. They have been designed primarily and exclusively to enable teachers to enquire together, to engage in joint problem solving, to co-construct, to co-create and to share their ideas with others in a focused, systematic and disciplined way (Harris & Jones, 2011).

In his work, Chemers (1997) suggests that leadership is the process of social influence where one person enlists the aid and support of others in the accomplishment of a common task. In today’s globalized and highly interconnected world, the traditional notion of leader and follower no longer accurately reflects the reality and complexity of leadership practice (Harris, 2013). Organizational boundaries are increasingly becoming blurred as new technology removes the fault lines around role, status, responsibility and authority. To get closer to the “practice” of leadership and to look at this practice in the virtual world requires a different framing and theoretical understanding of leadership. As Jameson (2006) suggests, “the operation of flatter structures of distributed leadership can therefore arguably facilitate bottom-up commitment to innovation in public sector organizations.”

**Distributed leadership**

Many education systems, including those in the UK, are moving towards a position where networking and collaboration are the main drivers for delivering excellent and equitable outcomes (Harris, Jones, Sharma & Kannan, 2013). Findings from the OECD (2010) suggest that creating collaborative structures around schools is more likely to result in deeper organizational learning both collectively and individually. The implication is that greater collective capacity for change and improvement will be achieved by relocating innovation much closer to schools (Muisj et al, 2011). However, working across organizational boundaries, rather than within them, inevitably demands a different form of leadership than that which is traditionally associated with command and control. It requires a form of leadership where the primary purpose is to coordinate activity both laterally and horizontally (Hadfield & Chapman, 2009). Therein lies the main challenge of leading a virtual network—if leadership is “invisible,” what are the implications for those leading and those being led?

Over the past few years, social networking and social media have grown exponentially in scale and scope. The online forum, network or chat room is now a routine part of modern life and for
some, the main source of daily communication. Described as “a collective group of entities, individuals or organizations that come together either temporarily or permanently through an electronic medium to interact on a common problem or interest space”, the issue of who leads and who influences this online group, for good or ill, is now of critical importance. The question of who directs, coordinates or supports collective interactions will largely determine the success and outcomes of the interdependent engagement and more importantly, its purpose, direction and focus. As Jameson (2011, p. 50) underlines, “assuring effective leadership of on-line communities is, in fact, an essential pre-requisite for safe and harmonious participation by members in these groups.” She proposes that such leadership is best achieved through a shared form of power sharing or more specifically through “distributed leadership.”

Within the field of educational leadership, distributed leadership is now a well-established concept (Harris, 2008, 2013; Spillane, Halverson & Diamond, 2001). From a distributed perspective, social interaction is a critical part of leadership practice. Drawing upon social cognition theory, distributed leadership implies that leadership tasks are dispersed rather than delegated and that such dispersal is widely enacted across organizations. It is a form of leadership that recognizes individual and collective agency, and the reciprocal nature or the practice of leadership is more important than the precise leadership role or the particular leadership function. In essence, distributed leadership is best understood as practice distributed over “leaders, followers and their situation,” which incorporates the activities of multiple groups of individuals (Spillane et al., 2001, p. 20).

Distributed leadership implies a social distribution of leadership where the leadership function is stretched over the work of a number of individuals, and the task is accomplished through interaction and collective action. This theoretical framing implies that the social context, and the interrelationships therein, is an integral part of the leadership activity and that the leadership is extended within, across and between organizational boundaries (Harris, 2013). Therefore, the leadership skills and relationships necessary to implement change are quite different from, and arguably more sophisticated than, those associated with traditional notions of leadership. In virtual learning settings, for example, leaders are still reliant on certain aspects of voluntarism and therefore have to broker high levels of trust in order to influence others.

Research by Spillane et al. (2001) highlights that distributed leadership means that the practice of leadership moves between those in formal and informal leadership positions. It focuses on the nature of interdependencies and the co-performance of leadership practice. Implicit in the notion of “co-performance” is the possibility that those performing the practice might be pursuing different or even contradictory goals. The possibilities of this are multiplied in the virtual world where intentions are not explicit and real motivations can remain hidden. For genuine distributed leadership to occur, trust and empathy will be needed between and among team members thus encouraging authentic collaboration, the sharing of information and interdependent idea generation (Spillane, 2006).

Despite a view that much of the writing about distributed leadership does not engage with issues of power, authority and control (Lumby, 2013), it is self-evident that these issues are of much greater importance in a context where leadership is below the radar. Where leadership is distributed then inevitably the forces of power, authority and control are also distributed and shared. This presents two major challenges. Firstly, how to establish collective trust so that these forces work towards a common goal? Secondly, how to actively guide those who may not yet have formed mutual trusting relationships with others with whom they will be engaged? Leading in any network is difficult, but the virtual world presents an extra set of obstacles. For example, one challenge is engaging with people who potentially have a different set of guiding values or cultural norms. Another is that those entering the digital or virtual world are self-selecting so there is little choice about the composition of the team or group.
For the leader in the virtual world, success is heavily dependent upon building trust quickly and effectively (Jameson, Ferrell, Kelly, Walker & Ryan, 2006). Signalling that relationships matter can dramatically affect the culture and the performance of those working together virtually and can generate social capital with positive results. As Leana (2011, p. 3) states:

Social capital is not a characteristic of the individual teacher but instead resides in the relationships among teachers. In response to the question “Why are some teachers better than others?” a human capital perspective would answer that some teachers are just better trained, more gifted, or more motivated. A social capital perspective would answer the same question by looking not just at what a teacher knows, but also where she gets that knowledge. If she has a problem with a particular student, where does the teacher go for information and advice? Who does she use to sound out her own ideas or assumptions about teaching? Who does she confide in about the gaps in her understanding of her subject knowledge?

Social capital is essentially concerned with the norms and practices that support and facilitate collective actions for mutual benefit. Social capital exists and resides in the relationships and interactions of individuals rather than in the characteristics or skill sets of the individuals themselves. These relationships form the complex web of interactions that offer a powerful catalyst for collective learning, innovation and change. It is here that distributed leadership theory and social capital theory coalesce as both infer that focused collaboration, interaction and engagement can result in collective learning that can lead to better performance.

In terms of leading collaborative learning online, there is evidence that these communities function most effectively in two main ways. Firstly, where there is low-key but consistent distributed leadership in the guise of facilitation offering support and challenge and secondly, where the norms of mutual trust and reciprocal engagement are firmly in place. Research findings by Crawford (2002, p. 441) reinforce the importance of some form of facilitation for online learning to be most productive. She argues that “the facilitator is absolutely indispensable. There needs to be someone ‘who knows’ and who has a role as leader to take participants gently into the community and make them feel welcome-part of the community. They need to be obviously keen on the system and dedicated to making it work.”

The implication here is that distributed leadership in the virtual world requires a form of facilitation that fosters participative decision making among all members of the online community. In a “leaderless” online environment such facilitation is critical but what does this facilitation look like in reality? How does a facilitator promote deep and productive digital collaboration and interdependent learning? The remainder of this paper explores these two questions by drawing upon the experience of working with two different online platforms aimed at supporting collaborative learning among teachers.

Digital collaboration

Without question digital collaboration and the use of new technologies to enable efficient and valuable connections among individuals represent an area of technology with the greatest potential for significantly improving educational performance. Digital collaboration has been described as the process of “shared creation” where two or more individuals with complementary skills interact to create a shared understanding (Schrage, 1990, p. 40). It is a process or method to guide a diverse group of people to find solutions to complex problems that affect them all—and to encourage change.

Digital collaboration describes a process in which people with differing views and perspectives come together, put aside their self-interests and discuss issues openly and supportively in an attempt to solve a larger problem or achieve a broader goal. In their work, Teasley and Rochelle (1993) usefully distinguish between cooperation and collaboration. “Collaboration is a coordinated, synchronous activity that is the result of a continued attempt to construct and maintain
a shared conception of a problem. Cooperative work is accomplished by the division of effort among participants, as an activity where each person is responsible for a portion of the problem solving (p. 235).”

The research evidence concerning effective professional learning underlines the importance of social interaction, mutual dependence and active collaboration as the most powerful means of securing changes in professional practice. It demonstrates that professional collaboration can have a positive impact on student achievement (Saunders & Goldenberg, 2005). It also shows that professional collaboration is a powerful vehicle for changing teachers’ behaviour and improving student learning outcomes (DuFour & Eaker, 1998). The empirical evidence demonstrates that focused professional collaboration can improve teachers’ professional learning and secure improved school performance, irrespective of the school context and its socio-economic profile (Goldenberg, 2004).

But can digital collaboration achieve similar outcomes? More importantly, what are the conditions and leadership approaches that ensure that digital collaboration is effective and has a positive impact? The evidence from two online platforms provides some important insights and reflections on these issues. The first, PLC Online* (Appendix A), was initially designed to support a national programme of professional learning for all teachers in every school in Wales (Harris & Jones, 2011). This large-scale investment in teacher collaboration was part of a system-wide attempt to raise performance and to secure higher standards of teaching and learning (Harris, 2011). PLC Online was specifically designed as a mechanism to record, share and disseminate the outcomes of teachers’ collaborative work.

The second online platform was also developed to support digital collaboration among teachers and is part of a new professional learning project in Australia (Harris & Jones, 2011). The AITSL† is currently piloting the DCEPL programme with eight schools in seven states across Australia. The project commenced in November 2012 with the long-term aim of generating local approaches to innovation and change that can be shared more widely across the system. The project offers teachers a blended approach to collaborative learning and comprises face-to-face learning plus online learning. The DCEPL portal‡ (see Appendix B) has been designed so that teachers can chart their collaborative learning and share their progress and outcomes with one another and other schools.

Both online platforms share a number of important features. Firstly, there is a dedicated area for the formal programme leaders or facilitators to place resources and feedback. They have administration rights so they can view each school’s discussion about their collaborative activity and enquiry. Second, in each platform there is an online chat feature where teachers can discuss an issue together and can share resources, ideas and insights. Thirdly, videos, files and photographs can be uploaded as evidence of professional learning, and there is the facility for each group to post questions and to request Skype meetings or any other forms of communication with the facilitators. The digital platforms also differ in a number of important ways.

PLC Online is a national platform that has the potential to support many schools and any number of PLCs within each participating school. In contrast, the DCEPL site is currently supporting eight schools that are widely geographically spread but clearly has the potential to support more schools. The PLC Online platform has a search facility that allows teachers to search for other PLC groups that are focusing on the same topic, are in the same area or who have requested specific

*PLC Online is a copyright product from “Web-Based Ltd” (http://www.webbased.co.uk) and is reproduced with their permission
†The views represented in this paper are the authors alone and they do not represent AITSL, the Welsh Government or Web Based Solutions
‡Reproduced with permission of AITSL

© 2013 British Educational Research Association
forms of support or advice from other schools. This facility is not yet available in the DCEPL platform. Finally, PLC Online is currently being used as a source of evidence that is contributing to a higher qualification for some teachers.

In terms of leadership, a team of local education advisors that are physically proximate to the schools has facilitated PLC Online. So technically, they can offer their support and guidance both virtually and face to face. In terms of the DCEPL platform, there are two external facilitators (authors one and two of the paper) so there is only virtual support for those schools within this project. Even though the scale and scope of the online platforms differ, the main goal is exactly the same: to facilitate and support high quality professional collaboration and learning online. This inevitably requires a different approach to leadership. The next section offers some reflections on leadership based on experience of leading in a virtual space. It also highlights some of the leadership challenges within a virtual environment.

**Leading virtual collaboration**

A virtual team has been described as a collection of individuals who are geographically and/or organizationally or otherwise dispersed and who collaborate via communication and information technologies in order to accomplish a specific goal (Zigurs, 2003). As such, a virtual team presents a new challenge to leaders and leadership primarily because they cannot influence in the usual ways (e.g., face-to-face meetings, body language, voice inflections). Without question therefore new leadership skills are required for creating and sustaining high-performance groups or teams across diverse boundaries. Kerfoot (2010) defines virtual leadership as leading an organization that is other than physical. In other words, it is the management of distributed work teams whose members predominantly communicate and coordinate their work through electronic media.

As highlighted earlier, there are a number of challenges that accompany the task of leading collaborative learning online, and what follows is a set of reflections by the authors, rather than a definitive set of conclusions or views from the originators or funders of both platforms. In the case of PLC Online our observation, based on initial involvement in the first phase of this work, is that the main issue was one of the sheer potentials and scales of the platform. At any one time there could be activity on the system from multiple schools, PLCs and teachers. The main challenge for the facilitators therefore was to track activity so that a distinction could be made between routine, procedural matters and new issues or developments that required intervention and necessitated some response. In order to do this, signals were created in the system by Web-Based to “red flag” when facilitation was required either by schools or individuals. Participants were trained not only to use the system as a platform for recording the “day to day” work of the PLC but also to judge or gauge when they required expert advice or input.

In leading digital collaboration, the facilitator has to depend on coaching rather than supervision because the interaction is time delayed. Successful online facilitators learn how to cross time, distance and space in order to intervene in ways where direct supervision and interaction are impossible (Baba, 2013). In the case of the DCEPL platform from direct experience, the main leadership issue was not that of scale but different time zones. Communicating with all schools simultaneously was also not an option for the facilitator, and this resulted in two important consequences. Firstly, there was no project “norming” as schools could not work simultaneously in the online environment; they could only see their own exchanges with facilitators. Secondly, the facilitation process varied from school to school as the activity generated by the school on the online systems differed quite extensively.

In our view, the main challenge for facilitation using digital media is how to coordinate schools working independently of each other albeit within the same project. In the context of “face to
face” leadership, motivation and high performance can occur through comparison, competition and contrast with others (Hargreaves *et al.*, 2010). The simple fact of knowing what other schools are doing would inevitably prompt some response or reaction. But if no such possibility exists then leading in the virtual world can prove to be much more difficult particularly if the system itself creates strong boundaries for reasons of privacy or security, for example.

In the case of both platforms, it was our experience that effective digital leadership was further complicated by the sheer quantity and density of the digital information generated by each school. The nature and degree of communication varied significantly across both platforms. Some schools were using the platform on a daily basis with numerous inputs and queries from participating teachers. As such the combination of a huge volume of communication and the unpredictability of its arrival presented a considerable challenge to those facilitating online. This has been established as a general predicament to those facilitating online, particularly those facilitating more than one online platform (Baba, 2013).

As Zigurs (2003) points out, one of the most important aspects of leading a virtual team is filtering, managing and coordinating the data flows and ensuring that the online activity is contained and not constrained. The role of the facilitator is to guide and direct the collective work so that it stays on track and is ultimately productive. It is also clear that while trust is the currency of the digital world, it remains the case that it is much more difficult to build relationships in a virtual environment. But as the evidence from using these two portals demonstrates, if leaders make an effort get to know people personally first, through an email conversation or an online chat, and find out more about them then relationship building is easier and reciprocal trust is more easily established.

On the technical, rather than the human, side of the virtual learning equation, there is a general tendency to “give up” really quickly if the technology fails to work and to resort to other more familiar means of communication. For some people, such glitches are actually welcomed because they can return to normative practice. The role of the facilitator therefore must be to reinforce the use of the digital platform and to resist alternative communication approaches. Similarly, it is important that the facilitator needs to establish clear protocols and expectations for the online engagement. These protocols and expectations need to be agreed beforehand and should be clear at the outset. In this way there is zero possibility of participants opting out completely or not responding to requests in the established time frame.

In their work Mehra *et al.* (2006) propose that successful virtual leadership is best facilitated within a “distributed–coordinated” collaborative leadership approach. Direct experience of these two platforms would certainly support and reinforce this viewpoint. In the virtual world the leaders or facilitators are essentially “boundary managers” who have to inspire people from a distance to engage, act and perform. They also have to recognize that those in the team are also leading and influencing as part of the reciprocal pattern of distributed leadership.

Leading virtual or digital collaboration requires the mutual, coordinated recognition of leadership and the authority to direct within an atmosphere of trust and respect (Jameson *et al.*, 2006). It is clear that effective digital collaboration benefits from collegial participation in an atmosphere of trust in which all team members are valued and respected in constructively critical ongoing analyses of team performance. A high degree of reflexivity, social skills and knowledge sharing can be engendered through collegiality and trust enabled by effective, flexible styles of leadership and management adapted to suit radically innovative, fast-moving e-learning projects.

**Conclusion**

The direct experience of both online platforms allows us to draw a number of conclusions. Firstly, it is clear that effective digital collaboration among teachers and schools hinges on a few key
levers. These levers include: a clear focus on learning rather than teaching; active experimentation with different collaborative strategies; distributing leadership within the group or team; and engendering trust and encouraging participants to remain open to their online environment rather than returning to the safety of other forms of communication. Secondly, the skills of facilitation are critical to ensure that new ideas and wider perspectives are brought to the group. With focused and timely challenge and support group, learning can be extended and enhanced. Thirdly, this facilitation has to encompass brokerage or the capacity to initiate links and to access specialist support as there needs to be some “added value” for the facilitation for individuals and the group. Finally, in both online communities the importance of distributed leadership is underlined. Without some direction or influence over the work and collective efforts of the various groups, and group members, the chances of authentic digital collaborative learning are dramatically reduced.

Digital collaboration is connected to the creation of social capital through harnessing resources held by other actors and by increasing the flow of information within the digital community. While knowledge lies in different minds, both individual and collective, the value of collaboration lies in spanning “structural holes” where information or skills are lacking (Burt, 1992). This makes collaboration or networking potentially fruitful but only if there is a balance between participants in terms of the information/skills they possess and where structural ties do not imprison participants in negative behaviour patterns (Grant & Bader-Fuller, 2004). An important distinction in social capital theory therefore is whether the outcomes are an individual and collective good or both. In the case of the two online platforms, there is evidence of clear benefits for both teachers and schools.

In the digital or virtual world, the core intention of leadership may not have fundamentally changed, but a new medium for implementing those intentions has arisen in the shape of the digital or virtual environment. While the core objectives of leadership remain the same, increasingly leaders will have to achieve these objectives using digital media with virtual teams that are dispersed over space and time. If digital collaboration is to reach its true potential, leadership will need to move easily between the individual and the collective, the lateral and the horizontal. In the wake of new technologies it is unlikely that traditional patterns of leadership will prove adequate to meet the new challenges; hence, it is imperative that leadership is conceptualized and understood as generating and transferring knowledge, trust and shared purpose in a distributed way.

References


OECD (2010). *Better policies: better lives, the OECD at 50 and beyond*. Paris: OECD.


Appendix A: PLC Online
Appendix B: DCEPL portal screen shots